CENTURION

TANK CRAFT

ARMOURED HERO OF POST-WAR TANK BATTLES

Robert Jackson

Although beset by problems in its early forms, the Churchill went on to prove itself in the desert, Italy and northwest Europe.

TankCraft 14

CENTURION

ARMOURED HERO OF POST-WAR TANK BATTLES

Robert Jackson

Contents

Cover
Title
Contents
Copyright
Introduction
Development and Design
Centurion in Detail
The Centurion in Foreign Service
Camouflage and Markings
Model Showcase
Modelling Products
Centurion Armoured Engineer Vehicles
In Service and In Action

First published in Great Britain in 2017 by PEN AND SWORD MILITARY
an imprint of Pen and Sword Books Ltd
47 Church Street, Barnsley, South Yorkshire S70 2AS
Copyright © Pen & Sword Books Ltd 2018
Profile illustrations © Tom Cooper

ISBN 9781526741349
eISBN 9781526741356
Mobi ISBN 9781526741363

The right of Robert Jackson to be identified as the author of this work has been asserted in accordance with the Copyright, Designs and Patents Act 1988.

A CIP record for this book is available from the British Library All rights reserved.

No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopying, recording or by any information storage and retrieval system, without permission from the Publisher in writing.

Every reasonable effort has been made to trace copyright holders of material reproduced in this book, but if any have been inadvertently overlooked the publishers will be pleased to hear from them.

Pen & Sword Books Ltd incorporates the imprints of Pen & Sword Archaeology, Atlas, Aviation, Battleground, Discovery, Family History, History, Maritime, Military, Naval, Politics, Railways, Select, Social History, Transport, True Crime, Claymore Press, Frontline Books, Leo Cooper, Praetorian Press, Remember When, Seaforth Publishing and Wharncliffe.

For a complete list of Pen and Sword titles please contact Pen and Sword Books Limited 47 Church Street, Barnsley, South Yorkshire, S70 2AS, England

Email: enquiries@pen-and-sword.co.uk Website: www.pen-and-sword.co.uk

Introduction

From Cruiser Tank to Main Battle Tank

By the end of the First World War in November 1918, the concept of the tank had been fully vindicated as an indispensable weapon of war. The tank was a British invention, and at the war's end Britain led the field in tank design and tactics, with France coming a very close second with innovative designs like the Renault FT.17, one of the best-selling tanks of the inter-war years.

The British Centurion tank – a magnificent fighting vehicle that finally proved that Britain's tank designers were capable of getting things right after years of producing tanks that were at best barely adequate and at worst disastrous – traced its lineage back to a change of armoured warfare doctrine that came about in the early 1930s, when the British Army, which had previously concentrated on developing dual-role medium tanks, took the decision to develop two separate types of armoured fighting vehicle, one an infantry tank to operate in support of ground forces and the other a 'cruiser' tank whose role was to break through enemy defences and then exploit the breakthrough by making surprise attacks on command and communications behind the forward battle area.

The British Army's armoured warfare doctrine was based on these two different types of tank. The first, the so-called 'cruiser tank', was fast and lightly armoured, its purpose being to break through enemy defences or bypass them. The second type, the so-called 'infantry tank', more heavily armoured and with a speed slow enough to enable dismounted infantry to keep up, would then exploit the success of the cruiser tanks, which by now would be roaming around the enemy's rear areas and causing as much disruption as possible. This doctrine, which was sound enough in principle, was refined in 1919 by a senior officer of the Royal Tank Corps, Colonel J. F. C. Fuller, who produced a plan that envisaged a large-scale armoured offensive designed to achieve multiple armoured penetrations of an enemy's forward defences and totally disrupt his command and control system in the rear. The plan was virtually ignored by the British War Office but enthusiastically adopted by a reborn German Army, whose tank commanders used it to excellent effect in the Blitzkrieg of 1940.

The revised doctrine was influenced by various considerations, some technical, others political. The main political consideration reflected the need to police the more remote parts of the British Empire in the Middle East and Northwest India, where the disintegration of other pre-war empires had resulted in a rise of nationalism and its accompanying unrest. To achieve this, armoured cars were ideal, often working in cooperation with aircraft, whereas tanks were useless in the terrain where most of the problems arose. In the 1920s the production of armoured cars assumed priority over the development of other armoured vehicles, and it was not until the rise of Nazi Germany and its emphasis on the development of a strong Panzer force that production of new types of tank in Britain was accelerated.

The technical considerations involved the choice of armour, armament and motive power. One bold decision of the 1930s was to provide the new generation of cruiser tanks with a 40mm (2-pounder) main gun in addition to a secondary armament of one or more machine guns; the main gun, with armour-piercing shells, would be more than adequate to cope with the Panzer I and II tanks under development in Germany, armed respectively with machine guns (Panzer I) or a 20mm cannon (Panzer II). The problem here was a lack of foresight; British tanks were still using the 2-pounder gun well into the Second World War, by which time the Germans were deploying the Panzer III and IV armed with a main gun of up to 75mm calibre. One senior British officer, General Percy Hobart, Deputy Director of Staff Duties (Armoured Fighting Vehicles) persistently called for British tanks to be armed with a 57mm 6-pounder gun in 1938, but no formal requirement for such a weapon was issued until after the fall of France in the summer of 1940.

Vickers Mk I (A9) cruiser tanks pictured in the Western Desert, 1940.

German soldiers examining a disabled Mk III (A13) cruiser tank in the desert, 1941.

Armour protection for the new generation of British cruiser tanks was also sacrificed to reduce weight, it was decided that vehicles would be powered by modified petrol engines of the type being produced for existing commercial vehicles.

Mk V Covenanter tanks on manoeuvres.

The Crusader Mk III, armed with a 6-pounder gun, was the most important British cruiser tank of the North African campaign.

A Crusader tank and infantry in action during the Battle of Alamein, October 1942.

The first cruiser tank, designed by Vickers in 1934, was the Mk I (A9), which entered production in 1937, albeit on a fairly limited scale. Its turret was power-traversed and the vehicle carried a six-man crew. Its main armament was a 40mm 2-pounder gun, supplemented by three machine guns, two of which were mounted in small subsidiary turrets. Production of the Mk I ended with the 125th vehicle, the early model seeing service in France and North Africa. It was followed by the Heavy Cruiser Tank Mk II, which had begun life as the A10 Infantry Tank based on the A9, but with thicker armour and other refinements, including the deletion of the subsidiary turrets.

The next cruiser tank design, the A13 Cruiser Tank Mk III, was the product of Nuffield Mechanizations Ltd and represented an important step forward in British tank development, as it used a suspension system based on that devised in the United States by J. Walter Christie. A prototype made its appearance in 1937 and proved to have an excellent performance, the Christie suspension making a huge difference. (The Christie system was also adopted by the Russian BT series of tanks, culminating in the excellent T-34.)

The Mk III's armament comprised one 40mm gun and a single machine gun, which made it possible to dispense with two crew members. Its big drawback was its inadequate armour, which led to substantial losses when it encountered German Panzer IIIs in France and the Western Desert, and this deficiency led to the development of the Cruiser Tank Mk IV (A13 Mk II) in which the thickness of the armour was increased to 20 or 30mm (0.79 or 1.18in). This was still not very substantial, and the vehicle was fast but very vulnerable. Nevertheless, it acquitted itself well against Italian AFVs in the Western Desert, where it saw considerable action. The next British cruiser tank in the series was the Cruiser Tank Mk V (A13 Mk III), which had a redesigned turret, better armour and a higher top speed. However, it was still armed with the puny 2-pounder gun, which had weaker armour penetration and could not fire high-explosive rounds. The Mk V was known as the Covenanter.

The next cruiser tank, also designed and built by Nuffield, was the A15 Mark VI Crusader, which played an important part in the desert war, despite being outclassed by its German opponents. The Crusader I entered service in 1941 and it was immediately apparent that its 40mm (2-pounder) main armament was inadequate, so plans were made to replace it with the new 57mm (2.24in) 6-pounder. It was this version, designated Crusader III that became the most important tank in the desert battles, first seeing action at the Second Battle of Alamein in October 1942. As more effective tanks such as the Churchill and the American M4 Sherman became available, the Crusader was gradually relegated to secondary duties and specialist roles. Yet even the Churchill – the most important British-designed tank of the Second World War – was plagued by many shortcomings in its early service, being underpowered and fitted with the same weak 2-pounder gun that had been fitted to the earlier cruiser tanks. The appearance of the Churchill Mk III, armed with a 6-pounder gun, finally resulted in an effective fighting vehicle that was to prove its worth in the last battles of the desert war in Tunisia, the invasion of Normandy and the advance across northwest Europe.

A Cromwell cruiser tank on display in the Bovington Tank Museum, Dorset.

One of two Cromwell tanks on display at the Israeli Armoured Corps Museum, Latrun. The vehicles were used by the Israeli Defence Forces after being abandoned by the British Army in 1948.

The A27 Cromwell cruiser tank was a product of Nuffield Mechanizations Ltd.

Meanwhile, the War Office persevered in its efforts to develop a British-designed cruiser tank that would be operationally acceptable and reliable. Vauxhall's offering was the A23, a scaled-down version of the A22 Churchill infantry tank with the same suspension. It would have frontal armour of 75mm (3in) thickness, be powered by a twelve-cylinder Bedford engine and carry a crew of five. Nuffield submitted the A24, heavily based on the Crusader design and powered by a version of the V-12 Liberty engine, a powerplant dating back to the latter days of the First World War and by now thoroughly outdated; its only advantage was that it could be put into production quickly, as it used many of the Crusader's components. The final entry was submitted by Leyland, whose design was similar to Nuffield's but with different suspension and tracks. All these designs were intended to mount the Quick-Firing (QF) 6-pounder gun.

The design competition was won by Nuffield's A24 in January 1941. It was expected to be in service by the end of 1942, but there was a snag. The War Office, at last recognizing the obsolescence of the Liberty engine, now insisted that the tank be re-engined with the Rolls-Royce Meteor, a version of the excellent Merlin Mk III. Refitting the A24 with the new engine was beyond the capacity of Nuffield, so the job was assigned to Leyland, working with the Birmingham Railway Carriage and Wagon (BRC&W) company. The new tank would emerge as the A27M Cromwell. In fact, the name Cromwell had already been allocated to Nuffield's Liberty-engined A24; originally designated Cromwell I, it was later known as the Cavalier. The A27L Cromwell II was another variant to bear the name. Based on the Cavalier chassis, it was armed with a 95mm howitzer and, renamed Mk IV Centaur, was deployed in time to support the Allied landings in Normandy in June 1944.

The Cavalier cruiser tank was originally known as the Cromwell I.

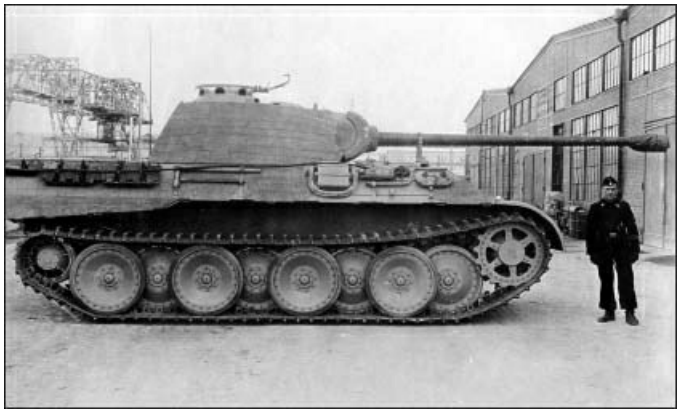
Wreck of a German Panzer V Panther in Normandy, 1944. The Centurion was designed to combat this and other new German tanks.

Comet tanks of the 2nd Fife and Forfar Yeomanry, 11th Armoured Division, crossing the Weser at Petershagen, Germany, on 7 April 1945. The Comet remained in British service until 1958 and fought alongside the Centurion in Korea.

The closing stages of the Second World War saw the emergence of the A34 Comet cruiser tank, a final attempt to rectify the deficiencies that had been revealed in the design of earlier cruiser tanks during combat in the Western Desert and Italy. The first attempt at redesign resulted in the Challenger, comprising a 17-pounder anti-tank gun mounted on a Cromwell chassis. The mounting of this larger gun carried its share of penalties, the biggest of which was that there had to be a reduction in armour protection, so ultimately the Challenger was not a success. In the Comet design, the gun was a 77mm version of the 17-pounder, with a lower muzzle velocity; the engine was uprated and the armour welded rather than riveted. The prototype Comet was rolled out in February 1944 and the first examples were delivered in September, in time to take part in the British XXX Corps' dash to the Rhine at Arnhem. The Comet went on to see action during the crossing of the Rhine at Wesel in March 1945. Production by the end of the war totalled 1,200 units, some of which were supplied to foreign armies.

The real solution to the British Army's tank design headaches, however, lay in a decision to combine the requirements of the infantry and cruiser tank and merge them into the design of a single vehicle, a so-called 'universal' tank. In 1943 the War Office, conscious of the vulnerability of existing cruiser tank designs to the formidable German 88mm anti-tank gun and a new generation of German tanks – in particular the heavy Tiger and the Panzer V Panther – instructed the Directorate of Tank Design led by Sir Claude Gibb to come up with a proposal for a new heavy cruiser tank under the General Staff designation A41. It would be known as the Centurion.

The Centurion's design was partly influenced by the lessons of the campaign in Italy, where the nature of the terrain made tank operations very difficult. Here, American Sherman tanks are seen en route to Monte Cassino.



The Panzerkampfwagen V Panther. Any possible encounter between this formidable tank and the Centurion was rendered impossible by the end of the war in Europe.

Development and Design

The original Outline Specification of the A41, issued in October 1943, called for a fighting vehicle weighing no more than forty tons, a weight limit imposed by existing tank transporters and the 80-foot Bailey bridges that the new vehicle would have to negotiate. This restriction was soon removed and the weight increased to forty-five tons to accommodate heavier armour and a wider turret. Although a high top speed was not considered important, the tank was to be as agile as the Comet and was to have a high reverse speed, a requirement dictated by the lessons of the fighting in southern Italy, where Allied tanks had often become trapped in narrow sunken roads.

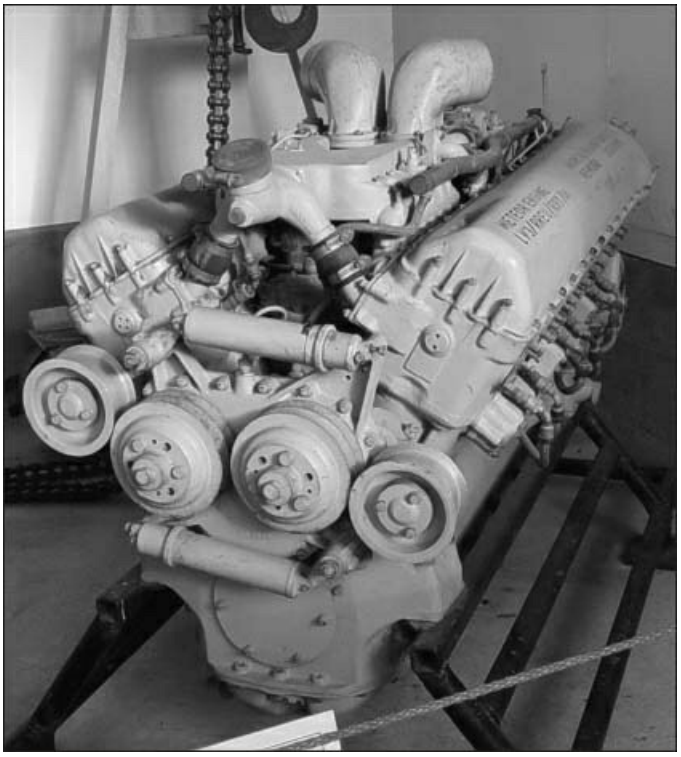
The Directorate of Tank Design produced a larger hull by adding a sixth wheel to the Christie suspension used on the Comet, and extending the spacing between the second and third wheels. The Christie suspension, which featured vertical spring coils between the side armour plates, was replaced by a Horstmann suspension with three horizontally sprung, externally mounted, two-wheel bogies on each side. This did not offer as smooth a ride as the Christie system, but had the advantage that individual suspension and wheel units could be replaced fairy easily in the event of mine damage.

Taking a lesson from the German Panther and the Soviet T-34, the hull was designed with welded, sloped armour and featured a partially cast turret mounting a 76.2mm 17-pounder main gun and a 20mm Polsten cannon in an independent mounting on the left. (It was originally decided to mount the Polsten to engage enemy anti-tank guns, the 20mm shells being capable of penetrating their gun shields.)

The turret accommodated a crew of four: commander, gunner, loader and driver. Power was provided by a Rover-built Rolls-Royce Meteor 650hp petrol engine, as used in the Comet and Cromwell, but with a Merrit-Brown gearbox with five forward and two reverse gears. As petrol engines were vulnerable and posed a significant fire hazard, measures were taken to reduce the risk; all the main ammunition, for example, was stowed beneath the turret ring. Prototypes of the original forty-ton design, the Centurion Mk I, had 76mm of armour on the front glacis, which was thinner than that of the Churchill infantry tank, but it provided effective protection thanks to the highly sloped glacis plate.

The Centurion's original specification imposed a forty-ton weight limit, enabling it to safely traverse a Bailey bridge like this one over the Taute river in France.

The Horstmann suspension system. The two wheels per bogie, two crank arms, springs between the cranks and single mounting point are all evident in this image.



The Rolls-Royce Meteor engine was efficient and reliable but had a high fuel consumption, limiting the Centurion's range to about fifty miles.

A design mock-up, built by AEC (Associated Equipment Company) Ltd, was ready for inspection in May 1944, and twenty development vehicles were subsequently ordered, these having different armament combinations: ten with the 17-pounder and 20mm Polsten gun, plus a Besa machine gun in the rear of the turret, five with the 17-pounder and a forward-firing Besa, and five with a 77mm QF gun and driver-operated Besa. The Polsten cannon was a Polish weapon, a simplified version of the 20mm Oerlikon. Development work had continued after the Polsten design team escaped to Britain following the German invasion of Poland in 1939. The Besa was a British version of the Czechoslovak ZB-53 air-cooled, belt-fed machine gun, a dependable and reliable weapon produced under licence by the Birmingham Small Arms Company.

Because of the priority given to the production of existing British tanks to make good the attrition suffered during the campaign in northwest Europe and Italy, it was April 1945 before the first development examples of the A41 were delivered to the Fighting Vehicles Proving Establishment at Chertsey in Surrey. The first six to be completed (three by the Royal Ordnance Factory Woolwich and three by the Royal Ordnance Factory Nottingham) were deployed to Europe via Southampton for operational trials with the 5th Royal Iniskilling Dragoon Guards and the 5th Royal Tank Regiment in an exercise codenamed Operation Sentry, but hostilities ceased before they could be tested in combat against German armour. Trials continued into July 1945 and various recommendations were made, one of which was to replace the 20mm Polsten cannon with a co-axial machine gun.

Comparative trials revealed that the A41 was highly mobile and easily outperformed the Comet in most respects. As the evaluation produced no significant problems, a production order was issued for 800 Centurion tanks, of which a hundred were to be Mk Is mounting a 17-pounder gun and a co-axial 7.92mm Besa machine gun and the remainder Mk IIs (A41As), all but a hundred of which would be armed with an 83.4mm 20-pounder gun then being developed by Royal Ordnance. Production of the Centurion began in November 1945 and the first examples were delivered to the 6th Royal Tank Regiment in February 1946.

Already, there were signs that the fragile alliance between east and west that had existed during the Second World War was becoming fractured. For once, the British Army would have a superb fighting vehicle to meet whatever threat might face it on land. The Centurion, designed as a cruiser tank, was now the progenitor of a new class of British armoured fighting vehicle: the main battle tank.

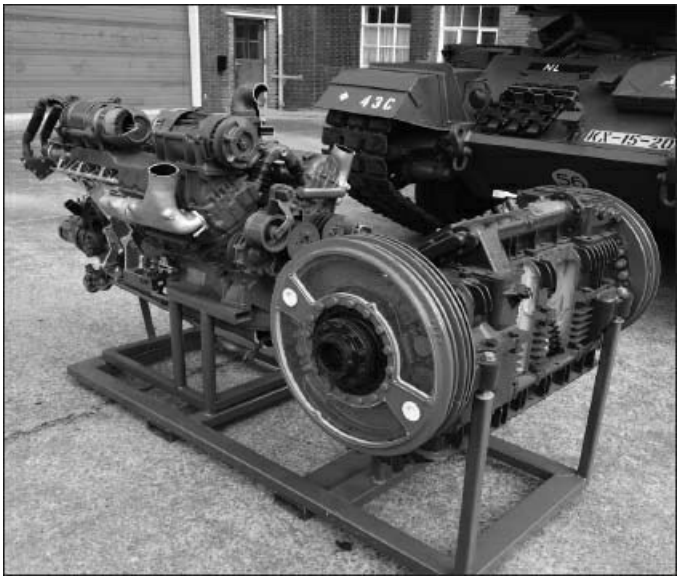
Centurion Specification (Mk II)

Armament: One 17pdr (76mm/3in) or 20pdr main gun, one coaxial 7.92mm (0.31in) Besa MG or one 20mm (0.79in) Polsten cannon

Armour: 17–127mm (0.75–4in)
Crew: 4
Dimensions: length 7.82m (24ft 6in), width 3.39m (11ft 2in), height 3.01m (9ft 11in)
Weight: 43,182kg (42.5 tons)
Powerplant: Rolls-Royce Meteor V-12 petrol, 484.7kW (650bhp)
Speed: 35kph (22mph)
Range: 80km (50 miles)

One major concern in the design of the Centurion was that it was powered by a petrol engine. The vulnerability of this type of powerplant had been demonstrated by losses of the Sherman tank that was so prone to catching fire that the Germans named it the 'Tommy Cooker'. Here, German paratroops pass a knocked-out Sherman in Normandy.

The 20mm Polsten gun had a variety of applications, including the anti-aircraft role. The weapon pictured here is in service with the Canadian Army.



All Centurion variants were powered by the Rolls-Royce Meteor Mk IV V12 petrol engine, produced by Rover. Five different variants of this engine – seen here with its associated transmission – were used, depending on the particular mark of tank.

A Centurion Mk II with 17-pounder main gun.

Had there been conflict in Europe during the immediate postwar years, the Centurion's main adversary would have been the Soviet T-34/85 medium tank, pictured here.

Centurion in Detail

The driving compartment
Access to the driver's compartment was by way of a hatch, fitted with two interlocking spring-assisted covers, located in the top of the forward hull plate, the hatches being positioned on either side of the driver's position. The right-hand hatch cover was fitted with a periscope to give the driver forward vision when the covers were closed. The driving controls were conventional, consisting of clutch, brake and accelerator positioned from left to right. The steering levers, controlling the direction of travel by altering the speed of the tracks, were on either side of the driver's seat, with a handbrake on the right-hand side. The gear stick was centrally mounted. The driver's instrument panel and engine controls were mounted on his right, and two CO_2 fire extinguishers were fitted on his left. Also on his left, protected by a longitudinal steel divider, were an ammunition storage bin and a ten-gallon freshwater tank. In later variants, the freshwater tank was moved to the fighting compartment.

The fighting compartment
The power-operated turret housed the other three members of the crew: commander, loader and gunner. The turret was of cast construction with the roof welded in place. An ammunition resupply hatch was mounted externally in the left-hand side of the turret, which featured stowage boxes on either side. The loader was seated on the left of the main armament, the commander on the right and to the rear, and the gunner was in front of and below the commander. In the Mk II and subsequent Centurion variants the commander had a vision cupola, enabling him to direct operations while having the benefit of armoured protection. The cupola was fitted with a 10x magnification periscope and could be manually traversed through 360 degrees. Additional periscopes to provide better all-round vision were added in later variants. The gunner had a periscopic sight etched with a ballistic-pattern graticule, while the loader also had a single observation periscope. The loader, who also doubled as the radio operator, was provided with twin hatch covers opening to the front and rear. He was also responsible for serving the co-axial Besa machine gun and the Mk II bombthrower, which was located in the turret roof next to his periscope and which could fire HE, white phosphorus and illuminating flares out to a range of about 300 yards. Its main function was to engage infantry anti-tank teams, which had caused such havoc among Allied tanks during the Second World War with their Panzerfaust and Panzerschreck weapons.

The engine compartment
The engine compartment at the rear was separated from the fighting compartment by a fireproof steel bulkhead. Air was drawn in through the engine deck louvres by two fans. Power was transmitted from the engine through the clutch to the transversely mounted transmission. This was a combined change-speed and steering mechanism and incorporated a differential. Drive from the output epicyclic gears at each end of the gearbox was transmitted through an internally toothed coupling ring and an externally toothed driving shaft to the final drive. The transmission gearbox was a Merrit-Brown Z51R with five forward and two reverse gears. The engine itself was a Rolls-Royce Meteor, which had already proved itself as the powerplant of the Comet and Cromwell cruiser tanks and which was basically a Rolls-Royce Merlin V12 27-litre engine stripped of its supercharger, reduction gear and other ancillary equipment. The pistons were cast, instead of forged, and output was reduced to 600 brake horsepower (bhp). Because of the demands for diesel fuel elsewhere the Meteor used petrol, although it was of a lower octane than the Merlin's aviation fuel and carried a significantly lesser fire risk.

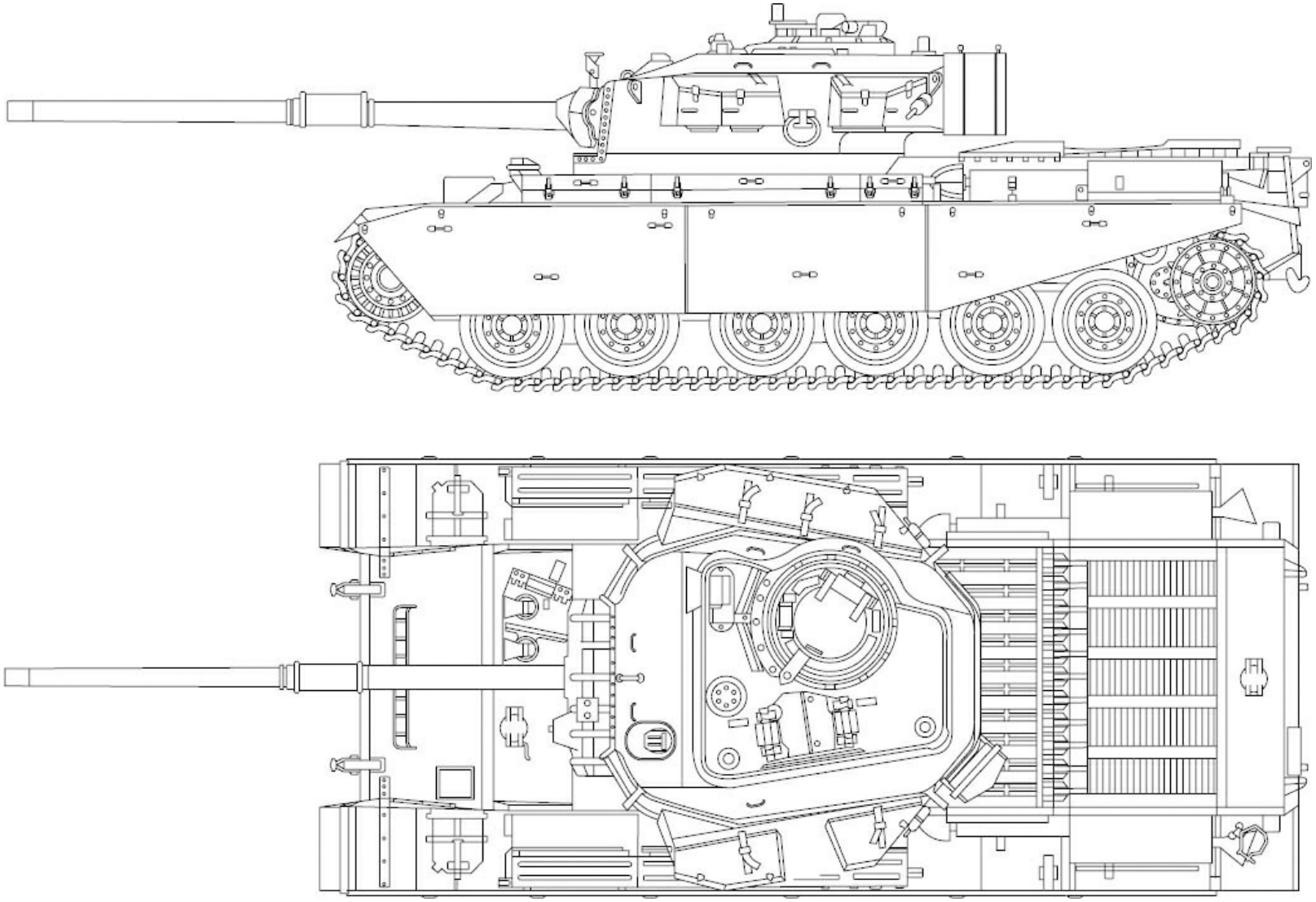
Armament
The 17-pounder main armament and the Polsten 20mm cannon, which were features of the Centurion Mks I and II, were replaced in the Mk III and subsequent variants by the Royal Ordnance QF 20-pounder and Besa 0.303in (7.92mm) co-axial machine gun. The 20-pounder was a multi-purpose weapon, using high-velocity, armour-piercing rounds to engage armoured fighting vehicles and medium-velocity, high-explosive rounds to engage soft-skinned targets and fortifications. The 20-pounder's armour-piercing projectile had a muzzle velocity of 4,700 feet per second and could penetrate twelve inches of rolled, homogeneous armour, while the HE round had a muzzle velocity of 1,975 ft/sec. The gun also fired smoke shells and canister rounds (casings stuffed with metal balls) which effectively turned the weapon into a giant shotgun for repelling close-range infantry attacks. The gun was fitted with a very efficient stabilization system, permitting accurate fire while on the move. In 1959 the 105mm L7 gun was introduced, and was used by all variants from the Mk V/2 onwards. The L7 was specifically designed to fit into the turret mountings of the 20-pounder, which enabled the Centurions to be upgunned with minimum

modifications so that the fleet could be upgraded in a shorter time and at a lower cost. Trials of the L7 were undertaken with a Centurion Mk VII, and these proved the viability of uparmouring and upgunning the tank. The first tank to be equipped with the L7 was a single uparmoured Centurion MK VII which proved the viability of uparmouring and upgunning the vehicle. From 1959 onward existing Centurions were given upgrades with the L7 gun and armour and new builds incorporated the L7 at production.

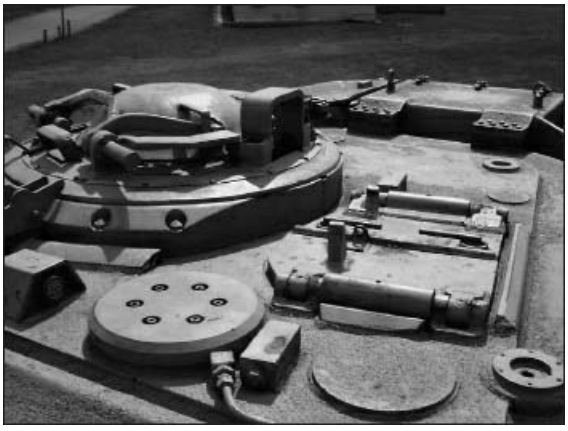
A lineup of Centurion Mk III tanks with the 20-pounder main armament. The gun is not yet fitted with a fume extractor. Note the counterweight at the muzzle.

Armour

As with other fighting vehicles, the degree of armour protection incorporated in the Centurion varied throughout the tank's service, being constantly upgraded to cope with new threats. For example, the original 127mm armour thickness on the gun mantlet was increased to 152mm with the introduction of the Mk III. The turret roof had 29mm of armour, the turret sides and rear 89mm. The hull sides and rear had 51mm and 32mm respectively, while that of the glacis plate was increased from the 57mm of the original A41 Centurion to the 76mm of subsequent variants.

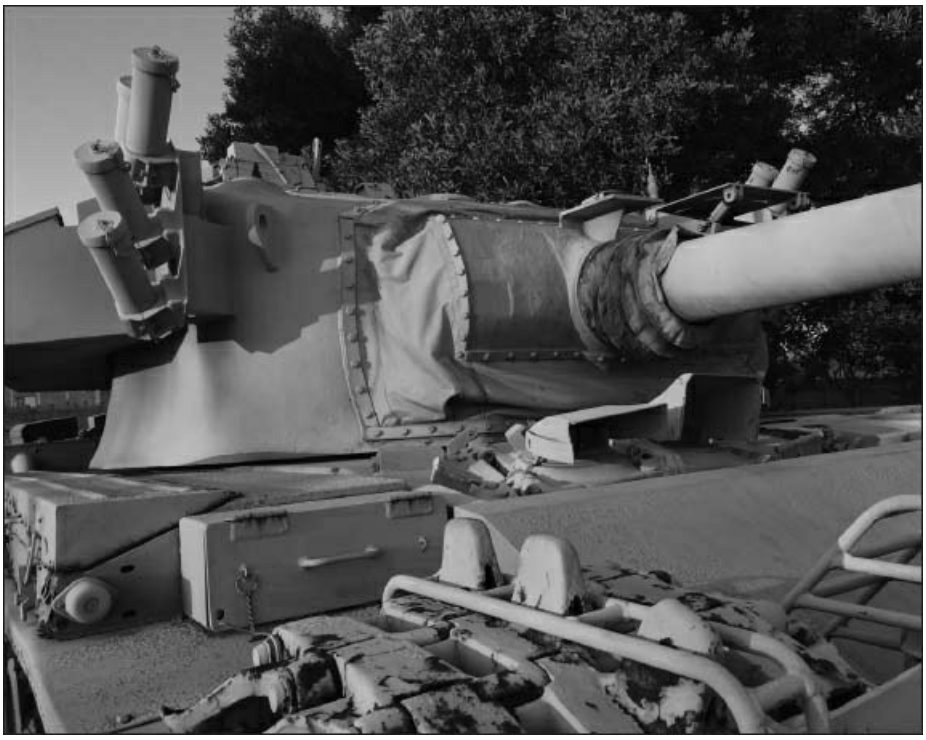


Side and top view of a Centurion Mk V 105mm Sho't IDF.



The turret details of the Olifant Mk IA main battle tank, the South African version of the British Centurion. Koninghippie, wikicommons

Photo shows the loader's episcope of the Olifant Mk IA. Koninghippie, wikicommons



Olifant Mk IA tank at the South African Armour Museum, Bloemfontein. Koninghippie, wikicommons

Photo shows details of the stowage box of the Olifant Mk IA. Koninghippie, wikicommons

Photo shows turret details of the Olifant Mk IA. Koninghippie, wikicommons

The Centurion Main Battle Tank Variants

- Centurion Mk I (A41): armed with 17-pounder (76.2mm) L/55 main gun and 20mm Polsten cannon, plus a linked (but not co-axial) 7.92mm Besa machine gun. Turret assembled from welded steel plates. 100 built.

Centurion Mk III on display outside the Redoubt Fortress, Eastbourne, East Sussex.

The Centurion Mk VII/1 was an uparmoured version of the basic Mk VII. It bore the designation FV4012.

The Centurion Mk X was an uparmoured Mk VIII, upgunned with a 105mm gun and with an ammunition capacity of seventy rounds. Note the large searchlight.

- Centurion Mk II: armed with 17-pounder main gun and 20mm Polsten cannon, with provision for seventy-four rounds of 17-pounder ammunition. Fitted with a three-man, one-piece cast steel turret, with separate roof plate welded into place. Featured a co-axial 7.92mm machine gun. Periscope sight provided for the gunner. 250 built.
- Centurion Mk III: armed with 20-pounder (83.4mm) L/66.7 main gun and co-axial 7.92mm machine gun, with provision for sixty-five rounds of 20-pounder ammunition. Gun mantlet fitted with protective canvas cover. First British tank to be fitted with electric and gyroscopic gun-control equipment (developed by Metropolitan Vickers) permitting the tank to fire on the move. Powered by Meteor Mk IVB engine developing 630bhp at 2,400rpm. Most later brought up to Mk V standard. 2,833

built.

- Centurion Mk IV. Proposed close support vehicle armed with a 95mm mortar. Not placed in production; project cancelled in 1949.
- Centurion Mk V. Developed by Vickers Ltd at Elswick and armed with 20-pounder gun; Mk V/1 was an uparmoured version, and Mk V/2 was fitted with a 105mm L7 rifled main gun. Co-axial 7.92mm Besa machine gun replaced by 0.303in Browning. Late production Mk V gun barrels fitted with a fume extractor mounted midway along the barrel, its purpose being to prevent hot gases leaking into the fighting compartment. 221 built.
- Centurion Mk VI. An uparmoured version of the Mk V, with 105mm main gun and additional fuel capacity at rear of hull. The Mk VI/1 was a Mk VI with infrared night-vision equipment and stowage basket at rear of turret. Centurion Mk VI/2 was a Mk VI with 0.50in (12.7mm) ranging machine gun for the 105mm gun.

A Centurion Mk XIII preserved and operated by the Norfolk Tank Museum. The museum offers visitors an exciting, hands-on experience of tanks, military vehicles and equipment. Visitors can climb aboard and even experience the confined inner workings of a tank, operating some of the controls.

- Centurion Mk VII. Developed by Leyland, this variant was designated FV4007. It was armed with a 20-pounder gun fitted with a fume extractor and carried sixty-one rounds of 20-pounder ammunition. The Centurion Mk VII/1 was a Mk VII uparmoured and designated FV4012, while the Centurion Mk VII/2 was a Mk VII with a 105mm gun. 755 built.
- Centurion Mk VIII. This variant was developed from the Mk VII and had a resiliently mounted gun mantlet (mounted on trunnions) with no canvas cover and a contra-rotating commander's cupola. The commander could also raise his twin hatch covers in an umbrella fashion for improved visibility without revealing his position. Centurion Mk VIII/1 was a Mk VIII uparmoured, while the Centurion Mk VIII/2 was a Mk VIII with a 105mm gun. 108 built
- Centurion Mk IX. This was an uparmoured Mk VII, the latter's 20-pounder being replaced with a 105mm gun. The Centurion Mk IX/1 was a Mk IX with infrared night-vision equipment and stowage basket on the rear of the turret. Centurion Mk IX/2 was a Mk IX with 0.50in (12.7mm) ranging machine gun.
- Centurion Mk X. This was an uparmoured Mk VIII, upgunned with a 105mm gun and with an ammunition capacity of seventy rounds. The Centurion Mk X/1 was a Mk X with infrared night-vision equipment and stowage basket on rear of turret. Centurion Mk X/2 was a Mk X fitted with 12.7mm ranging machine gun. 155 built.

Centurion Mk XIII with searchlight. Note the large stowage basket at the rear of the turret.

- Centurion Mk XI. This was an upgraded Mk VI with ranging machine gun, infrared night-vision equipment and stowage basket on turret rear.
- Centurion Mk XII. This was an upgraded Mk IX with infrared night-vision equipment, 12.7mm ranging machine gun and stowage basket on turret rear.
- Centurion Mk XIII. The last of the long line of British Centurion MBT vehicles, this was a Mk X with 12.7mm ranging machine gun and infrared night-vision equipment.

Centurion in Foreign Service

Australia

The Centurion equipped the Australian Army's 1st Armoured Regiment from 1952, thirty-nine Mk IIIs replacing the regiment's Churchill tanks. The regiment itself had been raised on 7 July 1949, as part of the new Australian Army. Its nucleus was formed from personnel from the 1st Australian Armoured Car Squadron that had returned from Japan several months earlier after serving with the Allied Occupation Force. The Regiment was based at Puckapunyal, Victoria. Its Centurions would later see action in Vietnam. The Australian Army eventually acquired a total of 127 Centurions, including four bridgelayers and six Armoured Recovery Vehicles, all delivered by 1961.

Austria

Although the Austrian armed forces (Bundesheer) depended heavily on the U.S. and Sweden for equipment during the Cold War era, some 370 obsolete Centurion tanks were purchased from the Netherlands, their turrets and 105mm guns being mounted in fixed defensive positions situated in the northeast of the country for the purpose of meeting a Warsaw Pact invasion from Hungary and Czechoslovakia.

An Australian Centurion Mk III on display at the Seymour Tank Museum, home to the Royal Australian Armoured Corps Memorial and Army Tank Museum, central Victoria.

Canada

At the end of the Second World War, the Canadian Army had a considerable fleet of Sherman tanks, all of which – except for a number shipped back home for training – were left in the Netherlands at the close of hostilities. The plan was to replace them with a new generation of American medium tanks, but the experience of the early Korean War months revealed a need for better tanks than the U.S. Army had on its inventory at that time, and planned replacements were not yet available. The British Centurion, which had proved its worth in Korea, was the obvious choice, and Canada took delivery of 274 Mk III Centurions in 1952 and 1953.

The first twenty-one Centurions were issued to the Royal Canadian Dragoons in Germany in March 1952, serving under NATO command. The new tank was well liked, having a .50-calibre ranging gun in the turret to assist in determining the range to main gun targets. The sophisticated optics and ammunition types, however, provided a challenge to new gunners as each of the different ammunition types – sabot, High Explosive Squash Head (HESH), smoke and canister – had differing muzzle velocities. The .30- and .50-calibre guns fired rounds on about the same trajectory as the HESH round; other rounds had to have the main gun adjusted according to muzzle velocity of the ammunition, as well as range, in order to ensure a hit on the target. The unsynchronized gearbox was also tricky for drivers to master, and faulty shifting could leave the 55-ton tanks rolling free in neutral on downward slopes, a condition nicknamed 'Mexican Overdrive'. In mid-1971 the Canadian Army still had 241 Mk V Centurions in service, together with six Mk V/2s, seventy-five Mk XIs, nineArmoured Recovery Vehicles and four Centurion bridgelayers. By 1975, the once-state-of-the-art tank was beginning to show its age, though as late as 1975 Canadian

gunners could still outscore other tank types by considerable margins in exercises.

The Centurions continued in service, having undergone several life extension upgrades, until 2 June 1977, when the Royal Canadian Dragoons in Lahr, West Germany held a final parade with the vehicles. Some Centurions continued in service in Canada until 1979, until being replaced by the German Leopard.

Denmark

The Danish Army received the first of 216 Centurion Mk III tanks in 1953, under the terms of the U.S. Mutual Defense Aid Program. Many, having been progressively upgraded to Mk V standard, continued in service into the 1990s, alongside 120 German Leopard MBTs that began to enter service in 1976.

Egypt

Sixteen Centurions were ordered by Egypt, nine of which were delivered in late 1950. Further orders brought the total number of Centurions in service to thirty. Many were captured during the Arab-Israeli conflict of 1956, by which time the Egyptian armoured forces had mostly rearmed with Czech-supplied Soviet equipment.

India

The Indian Army was a major user of the Centurion, 186 (mostly Mk VIIs) being delivered in the early 1960s and serving alongside some 340 M4 Shermans.

Iraq

The Iraqi Army took delivery of fifty-five Centurion Mk III tanks in 1955/6. They remained in service until the late 1960s.

Israel

The story of the Centurion MBT in Israeli service began in 1958, when Israel purchased 250 Mk III and Mk V Centurions from Britain in a bid to upgrade its armoured forces and make good losses incurred during the war of 1956. Further acquisitions from other sources and vehicles captured during the war of 1956 (including thirty from Jordan) brought the eventual total to 390.

Austria made good use of Centurion turrets in bunkers at various points to defend against an attack from the Warsaw Pact.

A Canadian Army Centurion Mk XI, on exercise in Germany, passing an apparently unconcerned group of agricultural workers.

A Canadian Centurion on manoeuvres in Germany.

Centurion Mk III on display at the Borden Military Museum, Ontario, Canada.

An Indian Centurion preserved as a museum piece.

A Danish Army Centurion Mk III ploughs through sandy terrain on an exercise.

Jordan

Fifty Centurion tanks were purchased by Jordan between 1954 and 1956, and further deliveries brought the total to around ninety by 1967. After the 1967 Arab-Israeli war, the army was rearmed and more Centurion tanks were purchased. In 1970, the 40th Armoured Brigade, the Jordanian elite armoured formation, was re-equipped with Centurions. The brigade's Centurions were refitted with 105mm guns. Between 1982 and 1985, 293 surviving Centurions of the Jordanian Army were refitted with the diesel engine and transmission of the M60A1 tank in place of the original Meteor petrol engine, the Belgian SABCA computerized fire-control system that incorporated a laser range-finder and passive night sight for the gunner, a Cadillac Gage electro-hydraulic turret drive and stabilization system and a new Teledyne Continental hydropneumatic suspension in place of the Hortsman units. These upgraded vehicles were called the Tariq. After retirement from service with the arrival of ex-British Challenger tanks in the late 1990s, several Tariqs were converted into heavy APCs.

Kuwait

Kuwait received an initial batch of ten Centurion Mk III tanks, which were handed over to Somalia in the late 1970s.

Netherlands

The Netherlands initially received 435 Centurion Mk IIIs from 1953, purchased by the United States as part of the Mutual Defense Assistance Pact, the total increasing to 592 by 1956. These were soon upgraded to Mk V standard with 20-pounder gun and the British radio sets replaced by American types; one fuel mono-trailer was also available per tank. In 1959/60, seventy Mk VII tanks were delivered from the UK; these were all held in war reserve until 1969, when they were disposed of. Over the years 1960–72, 343 Mk V tanks were gradually upgunned with 105mm guns to Mk V/2 standard, as were nineteen Mk VIIs (to Mk VII/2) in 1966–68. All Centurions were replaced by Leopard 2 main battle tanks in the 1980s, after having been used alongside Leopard 1s in the 1970s. Many Mk V and all Mk VII tanks were returned to the United States (which had paid for them), which appears to have shipped most to Israel.

Camouflage and Markings

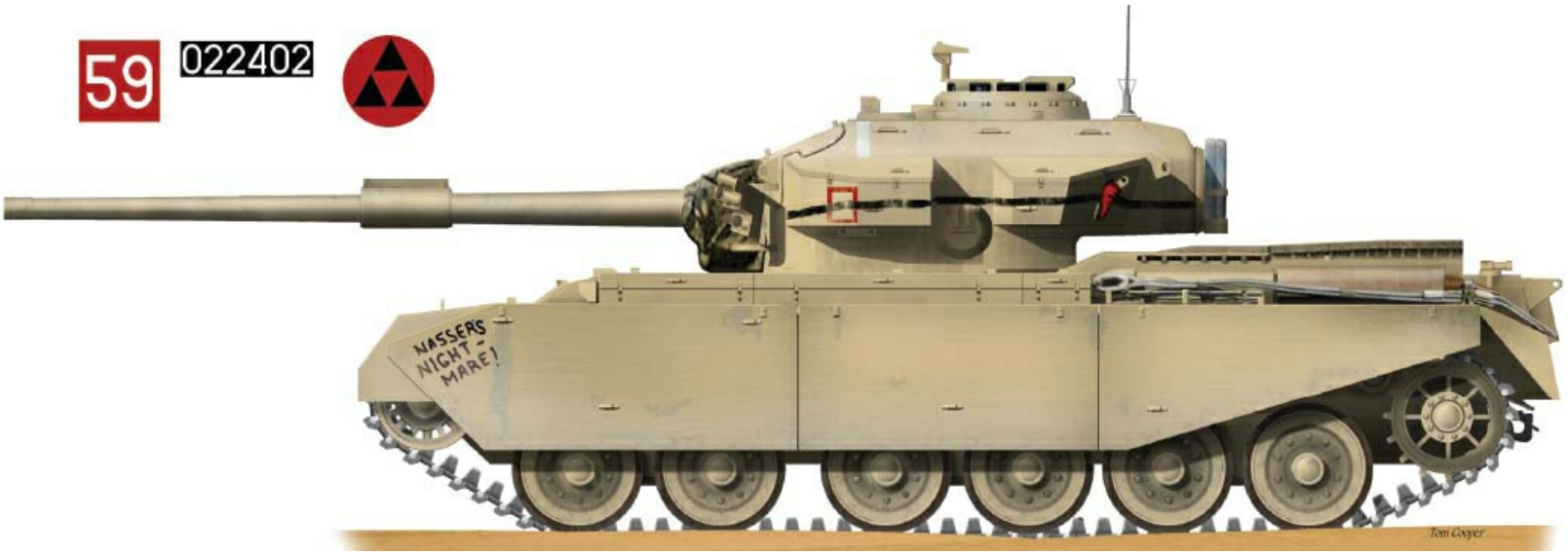
Centurion Mk III 'Arromanches' of 3 Squadron, 1st Royal Tank Regiment, Commonwealth Division, Korea 1953.

Centurion Mk III 'Caughoo' of C Squadron, 8th King's Royal Irish Hussars, commanded by Captain George Strachan MC, Yongdungpo, Korea, February 1951.

Canadian Army Centurion Mk V/2, Lord Strathcona's Horse (Royal Canadians, Soltau, Germany, September 1966.

Centurion Mk V, Israeli Defence Forces. This Centurion is shown in colours and markings of a vehicle knocked out inside Jordan during the Battle of Karameh on 21 March 1968.

Centurion Mk V 'Rattle', British Army, Suez campaign (Operation Musketeer), 1956. This is a vehicle of 6 RTR, as photographed in Port Said in November 1956. It is shown with the full set of markings worn by Centurions of this unit (insets), including the unit code, vehicle registration, and the tactical insignia of the 5th RTR.



Centurion Mk V 'Nasser's Nightmare', Suez 1956. This vehicle was also assigned to 6 RTR and was photographed in Port Said in December 1956, shortly before the British withdrawal. The black band around the turret is an identification marking and was applied by hand.

This is a vehicle of the 1st Armoured Division, Indian Army, deployed in north Punjab in September 1965. The name 'Ankush' is derived from that denoting a person or instrument used for guiding elephants. The tank also featured the tactical insignia of one of the regiments or brigades of the division (25 white on black square) on the front of its right fender, with unit insignia applied on the front of the left fender.

Centurion 'Sh'ot', of the IDF as deployed during the Lebanon War of 1982. Unit unknown, but the modified engine deck and all other extra fittings (including ERA blocks) are featured.

This Centurion Mk VII of the 40th Armoured Brigade of the Royal Jordanian Army was captured intact during the June 1967 war with Israel. It sported a camouflage pattern consisting of light earth and black-green. Unit insignia is shown in the insets.

A Centurion Mk V, upgraded to Mk X standard, of the 1st Armoured Regiment Royal Australian Armoured Corps, deployed in the Phuoc Tuy Province, South Vietnam, in 1968. It is camouflaged bronze green overall, though carries a heavy dusting of reddish earth.

The Swedish Defence Ministry placed an order for eighty Centurion Mk III tanks at the end of 1952, the first being delivered in April 1953. A few years later, Sweden ordered a batch of 160 Centurion Mk Vs, followed by a batch of 110 Centurion Mk Xs around 1960.

A Swedish Army Centurion Mk III (Stridsvagn 81) tank. This vehicle, one of the first six to be supplied to Sweden, was subsequently fitted with a 105mm gun and upgraded to Mk V standard.

This is a vehicle of 1 or 5 RTR, deployed in the Aden Protectorate in 1964–1966. Camouflage was beige with glossy black (applied with very sharp borders).

This shows a tank from C Squadron, 16th/5th Lancers, Operation Armadillo's Delight, in the Wadi Msirah area, Radfan, Aden Protectorate, in 1965. This vehicle features much glossy black colour on its sides and the turret. Notable is the ID strip in white. The insets depict insignia applied on most of the vehicles of that unit (including its Saladins, Saracens, Fox/ Ferrets etc.).

The Centurion Mk XIII was the last in the line of the Centurion gun tanks. It was essentially a Mk X fitted with infrared equipment and a ranging gun.

This was one of the Olifant 1Bs deployed by the SADF in Angola during the battle for Cuito Cuanavale, in the 1987–1988 period. Notable are the big 'grids' installed on the front of the turret and on sides of the fenders, for the purpose of keeping thick bush from hitting smoke candles and other equipment on the turret, or enmeshing into the treads. As a sign of their cooperation with Israel, the South Africans re-equipped their Centurions with US-made diesel engines, and with big baskets on the rear of the turret.

CENTURION

Mk V/1 Vietnam War

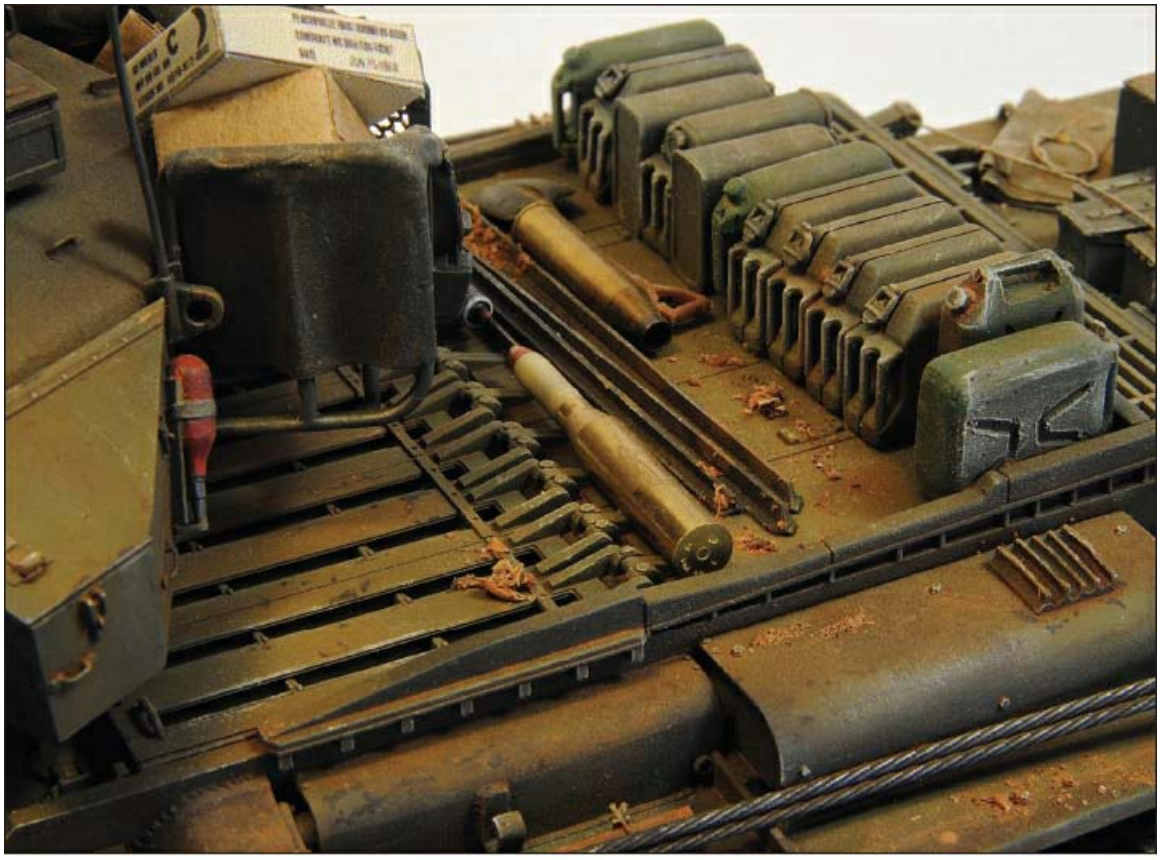
1/35 Scale

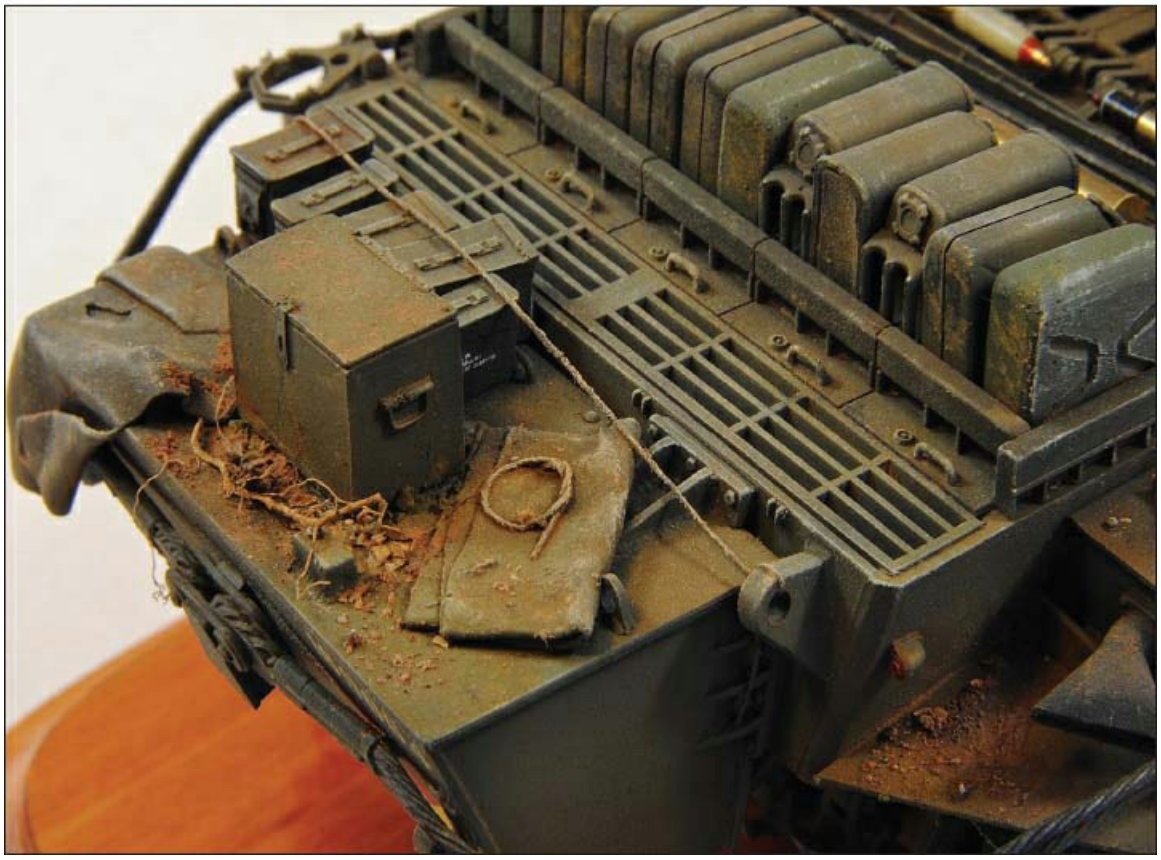
Brian Richardson

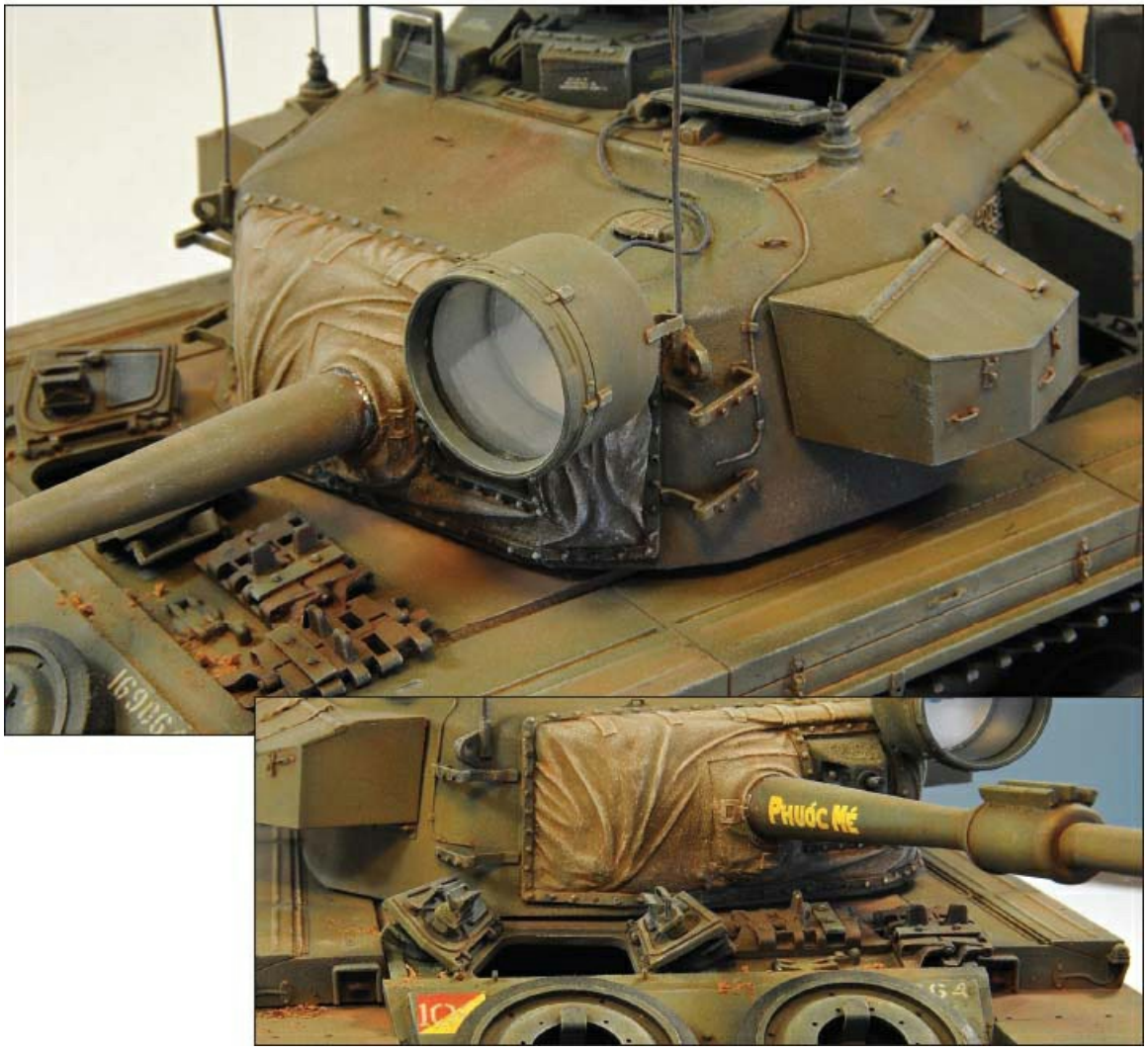
AFV Club's excellent kit has had some Mouse House Enterprise upgrades added with some jerry cans, ammo liners, boxes and boot scrapers fitted to the muffler heat shields. Mouse House decals were also used. A Firestorm mantlet cover and AFV Club ammunition conclude the after market additions. The hoochie was made from tissue and wire and this was fitted into pipe sockets 'welded' to the turret lifting eyes. Brass picture hanging wire replaced the kit tow ropes. ARN 169064 served in South Vietnam from May 1969 to December 1970 and still has the original sheet metal track guards and smoke grenade brackets in place. As the jungle took its toll on sheet metal fittings, the guards on many Centurions were replaced with stronger 1/4 inch steel fittings and US pattern steel pickets were cut up and welded between the stowage bin latches for added protection.

2A

2A







CENTURION

Mk VI West Germany, 1964

1/35 Scale

Jean-Vincent Roy

This is the Fort Garry Horse Troop Corporal's tank of 3rd Troop, C squadron from the 4th Canadian Infantry Brigade Group, West Germany, 1964. The base kit is AFV Club's Mk V/2 6 105mm gun (NATO). I also used a variety of the new TMD items: idler, wheel mount and adjuster, exhausts, replacement turret, tie-down cleats type 2 and 30-cal barrel. I used Firestorm Models replacement rubber tires. Unfortunately I made the decision to work with the kit's vinyl tracks. It doesn't look too bad but it was a tough fight. The base coat is a mix of Vallejo and Tamiya acrylics on Vallejo primer (which I don't recommend). Weathering was done using oils, pigments and washes.

33

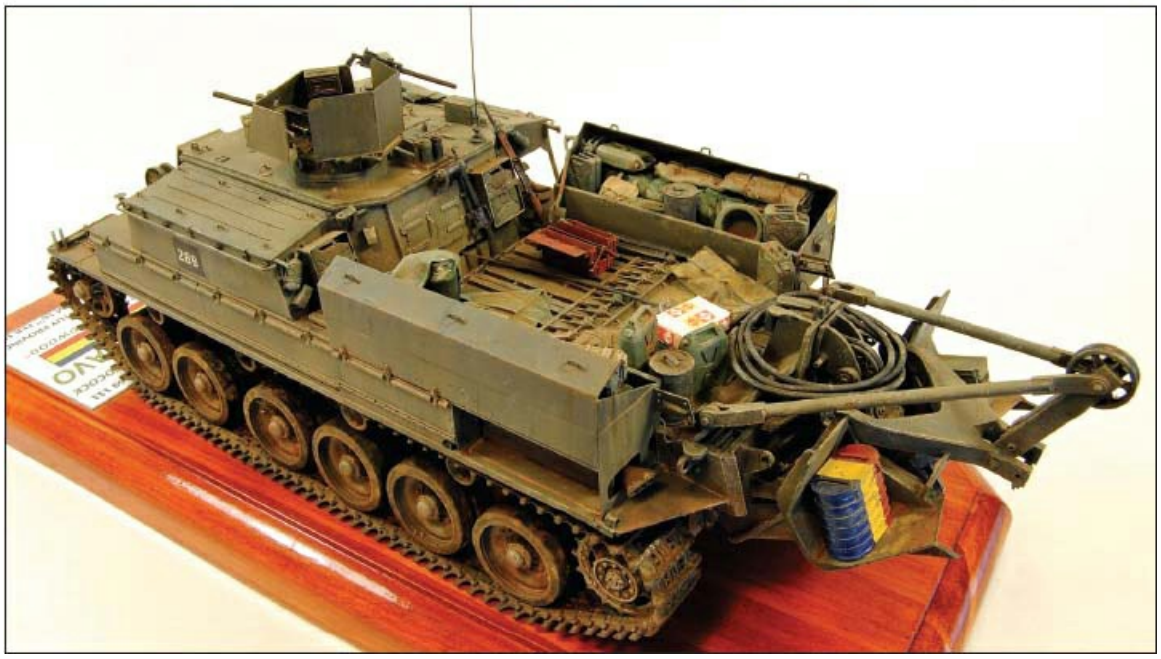
CENTURION

ARV Mk II Vietnam War

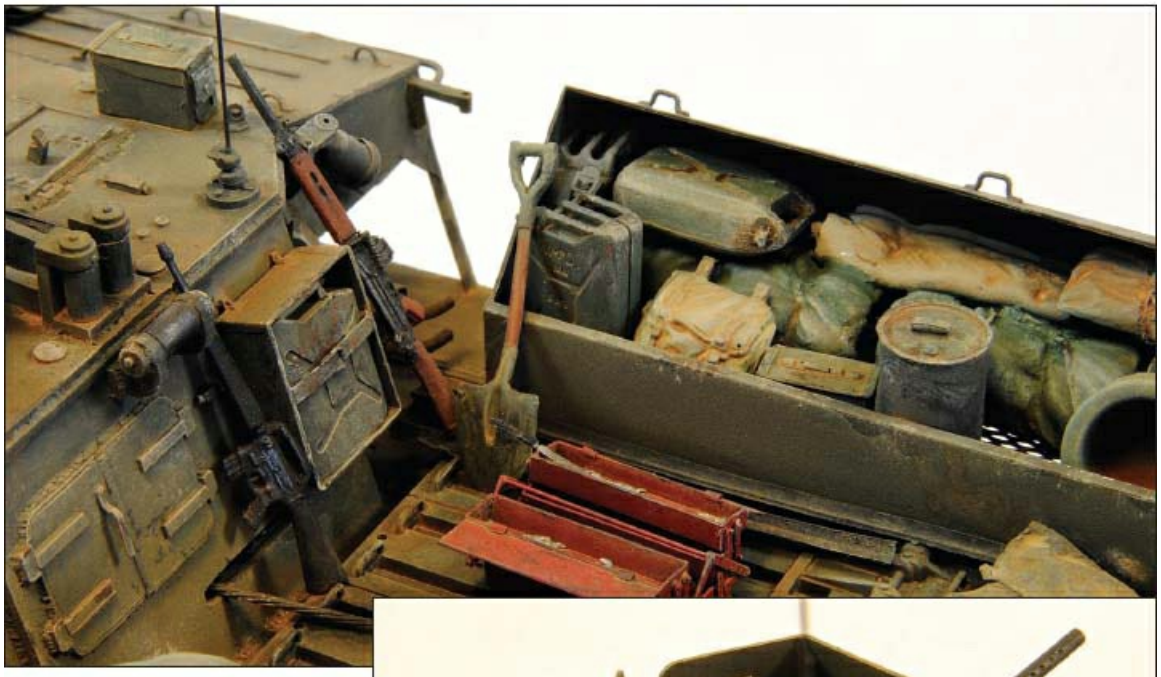
1/35 Scale

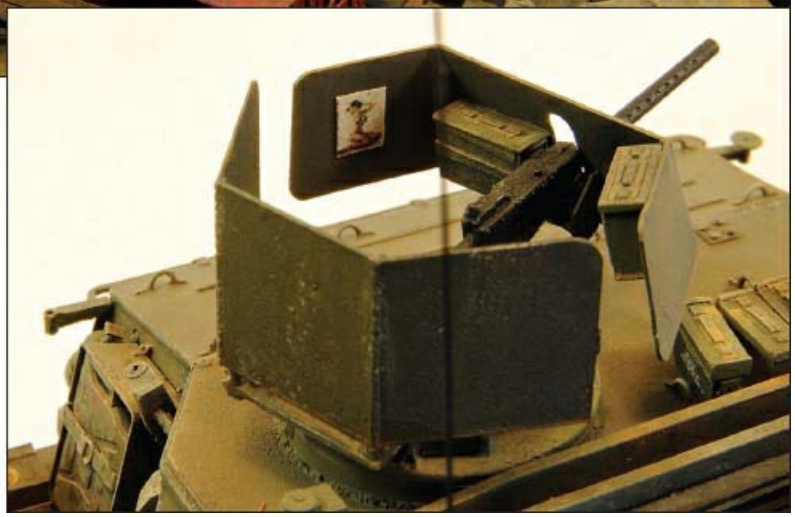
Brian Richardson

This model started with Tamiya's Mk III hull that was altered to the correct length, AFV Club wheels, suspension and tracks were fitted and the superstructure was scratch built with plastic card. Academy 30cal MG's and ammo liners, various boxes, packs and tarps filled the bins. The M16 is from Tamiya and the FN SLR is a Mouse House Enterprises item. Tamiya acrylics, Humbrol enamels and oils took care of the paint and weathering. Decals were sourced from spare sheets. The number of days the driver had left to serve in country was chalked on the front bin.



28B





CENTURION

Dozer Mk V/1 Vietnam War

1/35 Scale

Brian Richardson

The Dozer is another conversion this time AFV Club's 35106 kit. ARN 169071 'Contractor', a Vietnam vet that served from February 1970 to June 1971 in the Special Equipment Troop, C Squadron, 1st Armoured Regiment in Phuoc Tuy Province of South Vietnam during it's tour. It has all the changes including removal of the turret smoke launcher brackets, heavier track guards and bin reinforcements to mention a few.

CONTRACTOR

CONTRACTOR

92A
169071
92A

CENTURION

Mk III 'Caldera' Korea, 1951

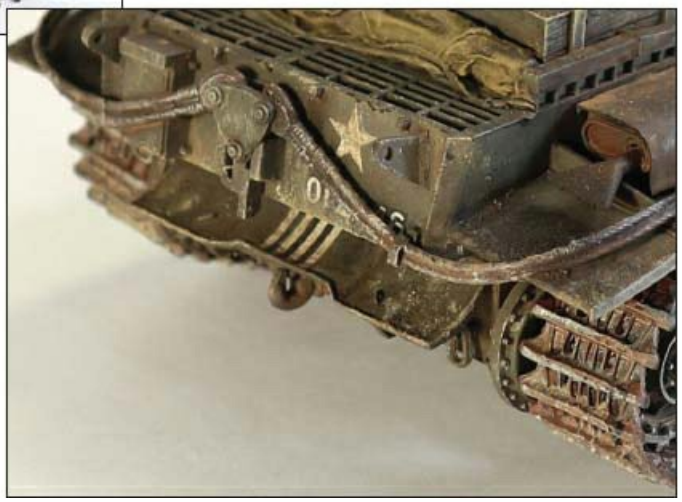
1/35 Scale

Evgeny Grechanyy

This model represents the Centurion Mk III ‘Caldera’ of the 8th King’s Royal Irish Hussars, Korea, 1951. This is the Tamiya edition 1971. It was built almost out of the box with slight modifications. There is an added Model Point metal barrel, a tarpaulin on the mask of the gun with a characteristic mount-strip with numerous bolt heads. On the turret I immitated a cast surface, made the wiring to the smoke grenade launchers. The machine gun is Academy and the fasteners for the cable of the tank-foil and added luggage are from different manufacturers, like the Alpine figure. The tracks are rubber from AFV Club – they are more detailed than the original one. It is painted with Tamiya acrylic and weathered with pigments and oils.

CALDERA

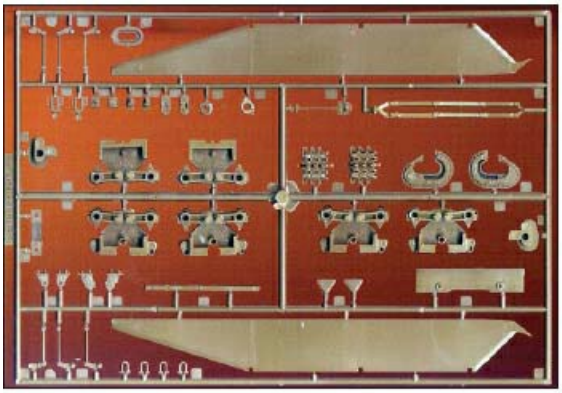
CALDERA

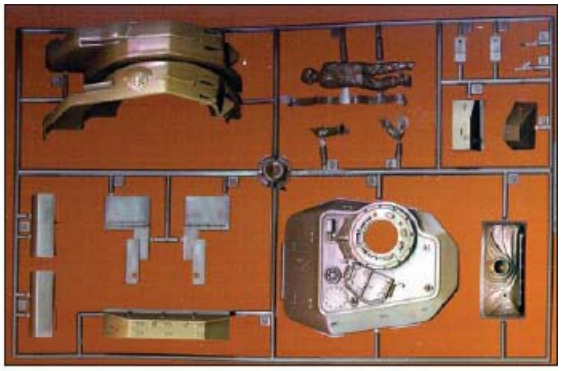


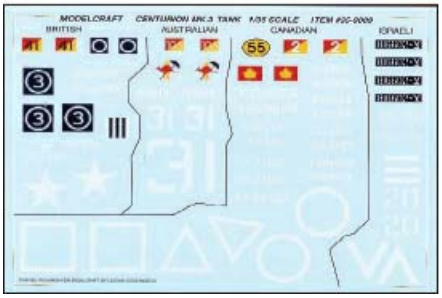
AFV Club's 1/35 plastic scale model kits are likely the most popular among Centurion modellers. It is easy to see why. AFV Club offers a variety of Israeli Defence Forces Sh'ot Kal versions: a Dalet with battering ram, a 1982 Gimel, a Mk V and V/1 and a Mk V 1973 variety, although at the time of writing the latter was unavailable. Separately, modellers can add to and upgrade their models with AFV Club's 20-pounder gun barrel, turret basket, with or without etching parts, a dozer and mantlet cover. It is felt that the latter should have been included in the kit and not be sold separately. Besides the Gimel and 1973 IDF Sh'ot Kal, AFV Club also do the Mk V in a RAAC (V/1) Vietnam version, a (V/2) NATO version with a 105mm gun and an IDF 1963 early type. New items for 2018, in conjunction with Hobby fan, includes a Korean War Mk III. The kits consist of many delicate parts and require a steady hand, but the quality of the kits with their finely detailed components – right down to the gooves on every track link – ensures a fine build.

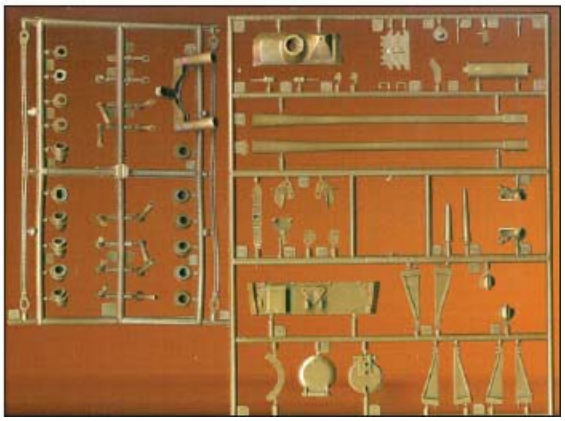
AFV Club kit images courtesy of Morgen Violet-Harris.

One kit is produced by **Academy**, a 1/35 scale Centurion Mk III. It is essentially the Tamiya kit in Academy colours.









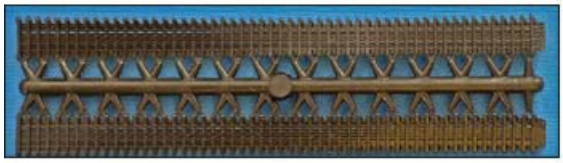
Images courtesy of Cybermodeler Online

Accurate Armour has a wide range of 1/35 scale Centurions. It produces one of the few Centurion Mk Is with an ARV conversion option. Modellers can choose between short or long hull ARV Mk IIs or the Australian South Vietnam ARV Mk II. The Mk III conversion kits are also offered with either short or long hull. Finally a Gulf War ARVE is available that comes complete with cables, armour panels, etched detail sets, gulf stowage and MIMIC.

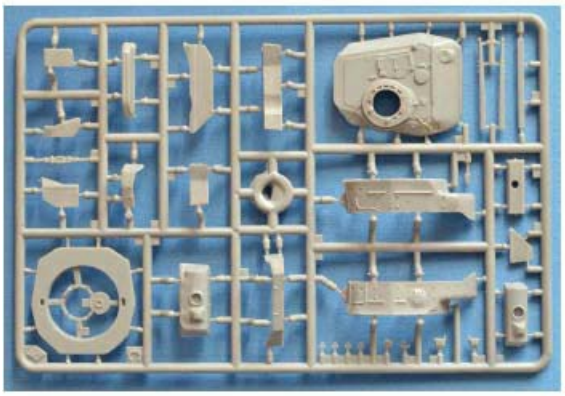
A Korean War Mk III is available from **ACE** in 1/72 scale as is a Mk V with Type A and Type B 20-pounder guns, and decals for the Berlin Brigade and the Suez Crisis. ACE's third product is a Long Range Mk V or V/1 with external fuel tanks. The Mk III is a very complete package, having both type A and B gun tubes on the sprues and a turret basket so many versions could be built from this kit.

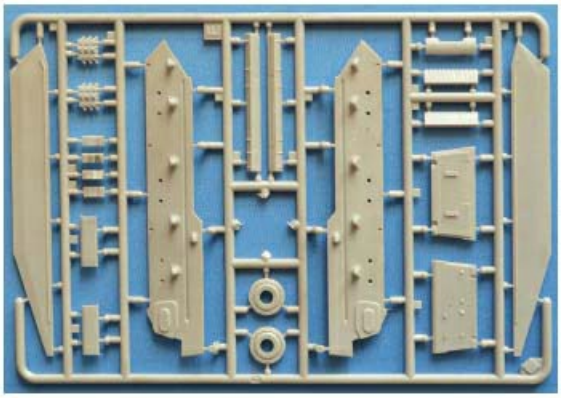
British MBT Centurion Mk.3
1:72
SCALE
CAT.#72425
READY TO ASSEMBLE SCALE PLASTIC MODEL KIT / ПЛАСТМАССОВАЯ МОДЕЛЬ.

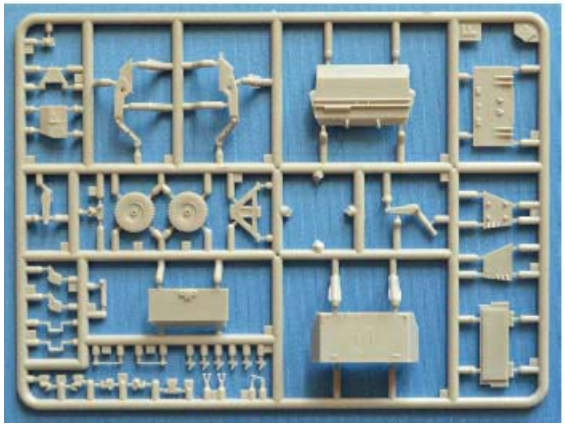
British MBT Centurion Mk.5
1:72
SCALE

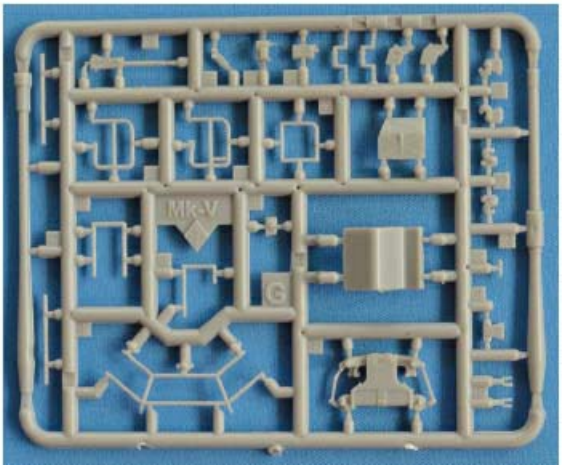


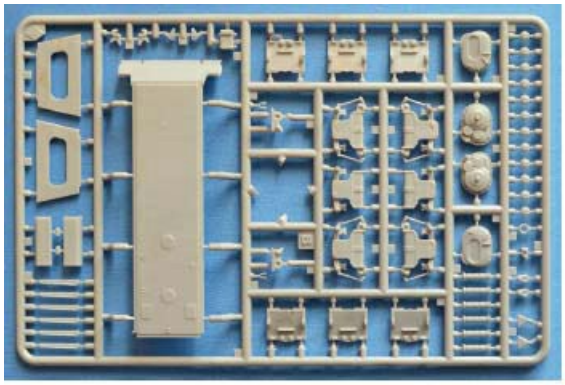
Long Range Centurions Mk.5LR / Mk.5/1
1:72
SCALE
CAT.#72428
READY TO ASSEMBLE SCALE PLASTIC MODEL KIT / ПЛАСТМАССОВАЯ МОДЕЛЬ.

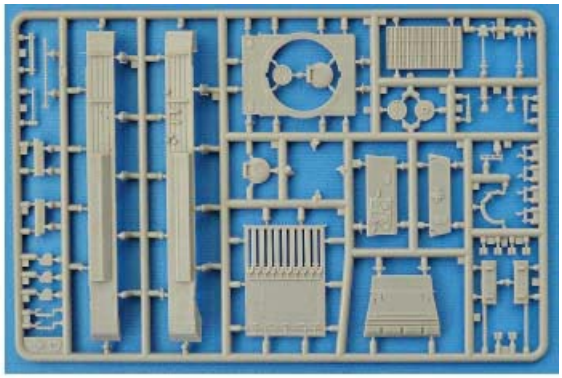


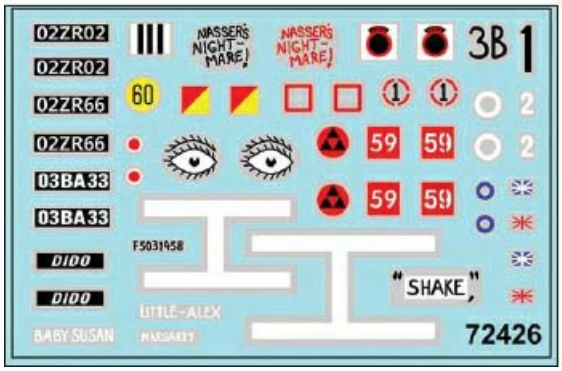


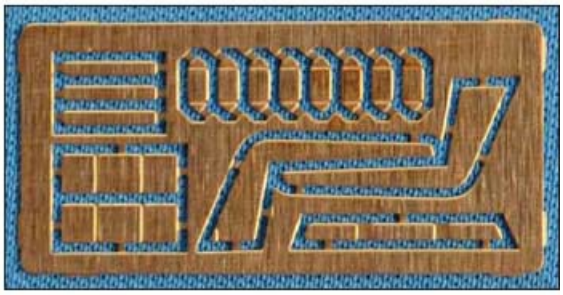



Mk.V

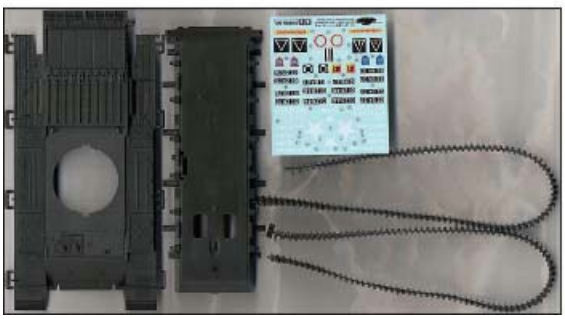


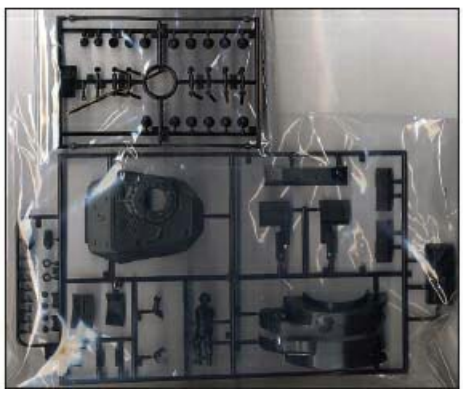






Tamiya is a first-rate scale model manufacturer and its 1/25 and 1/35 Mk IIIs are no different. This plastic model's form is well captured including the depictions of the turret and hull armour. A modeller can choose whether to include the waterproof cover for the mantlet – leaving it off enables better gun movement. The re-released kit includes three figures and there are a variety of British decal options with one IDF version. If you're looking to build a Centurion from the Korean War era then this would probably be your kit of choice, that is until the AFV Club Mk III is released and then one would have to reassess. These models are offered as remote control, motorozed or static models.

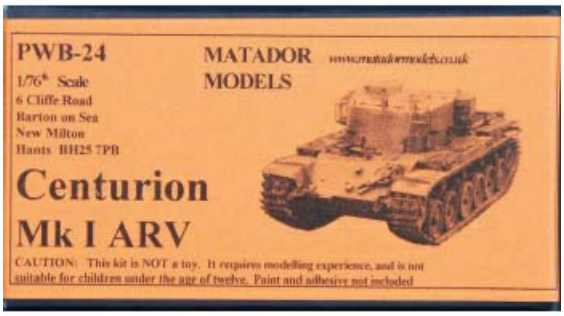


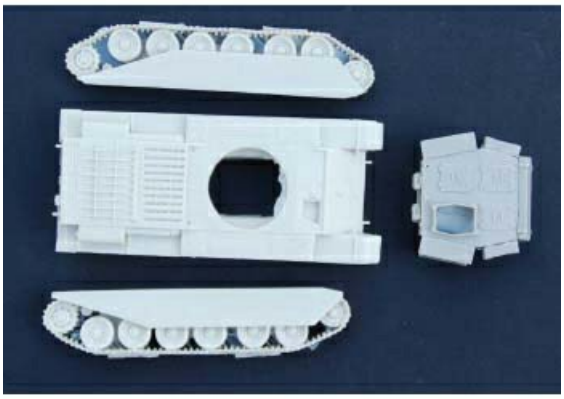


Models of Mk I Centurions are rare, besides Accurate Armour, **Matador Models** (previosly by Cromwell Models whose 1/76 range has been passed to Matador Models) do a 1/76 scale kit and **Atelier Infinite** offers a full Mk I kit too. It is resin cast and is in 1/144 scale. Japan's **Fairy Kikaku**, a small resin manufacturer that appears to be fairly unknown outside of Japan, produces a resin cast 1/144 Centurion Mk V, one vehicle in a set of three from the Indo-Pakistan wars, although markings are not included. **Modelcraft** offers a Mk III with four decal options: British, Australian, Canadian and Israeli. **Nichimo** plastic

models offers the Mk X with 105mm gun. Modellers who prefer 1/48 scale would probably turn to Aurora or Tank Mania. **Aurora** produces an IDF Mk V and two, what it calls Second World War British Centurion kits, although neither of these were available at the time of writing and are possibly now only found through second-hand dealers or private sales. **Tank Mania** has a high quality Mk III resin kit available which includes photoetch and waterslide decals.

Atelier Infinite's resin Centuion Mk 1 in 1/144 scale.


PWB-24
1/76th Scale
6 Cliffe Road
Barton on Sea
New Milton
Hants BH25 7PB
MATADOR
MODELS
Centurion
Mk I ARV
CAUTION: This kit is NOT a toy. It requires modelling experience, and is not suitable for children under the age of twelve. Paint and adhesive not included



Matador Models' Centuion Mk 1 in 1/76 scale.

Tank Mania's 1.48 scale Centurion Mk 3. Images courtesy of Tank Mania.

New Zealand

The New Zealand Army's first Centurion was a Mk III, shipped directly from England. Two more were delivered in 1953, followed by eight Mks III and V/1s supplied from British stocks in Hong Kong. All were withdrawn from service in 1968 and transferred to Australia.

Singapore

Sixty-three Centurion Mk III and Mk VIIs were bought from India in 1975 and more from Israel in 1993/4, all upgraded to

Israeli standard with new main guns and diesel engines. Replaced by the Leopard 2SG.

South Africa

South Africa ordered 203 Centurions from the UK in 1953, these entering service between 1955 and 1958. South Africa's major strategic priorities at the time revolved around assisting the British armed forces and other Commonwealth nations in a conventional war in the Middle East and Africa, and the Centurions were procured specifically because they were compatible with Commonwealth tank tactics and British armoured formations.

Following South Africa's withdrawal from the Commonwealth in 1961, its priorities shifted toward internal security and diversifying national arms procurement outside traditional suppliers such as the United Kingdom. To that end, a hundred Centurion Mk IIIs and ten Centurion-based recovery vehicles were sold off to Switzerland in 1961. The remaining Centurions, together with others purchased from Jordan and India, were later refurbished and served with the South African Armoured Corps from 1985 as the Olifant Mk IA.

Olifant Mk II main battle tank on display during the 2017 SANDF Armed Forces Day.

An Israeli Centurion.

New Zealand Centurion Mk III, 3rd Armoured Division.

Sweden

The Swedish Defence Ministry placed an order for eighty Centurion Mk III tanks at the end of 1952, the first being delivered in April 1953. A few years later, Sweden ordered a batch of 160 Centurion Mk Vs, followed by a batch of 110 Centurion Mk Xs around 1960. The Centurions, together with the Stridsvagn 103 (the so-called S-tank), formed the backbone of the Swedish armoured brigades for several decades. The Mk IIIs and the Mk Vs were upgraded with a 105mm gun in the 1960s. Between 1983 and 1987, the Centurions had a midlife renovation and modification (REMO) done, which included among other things night-vision equipment, targeting systems, laser range-finders, improved gun stabilization, thermal sleeves on the barrel and exhaust pipes and reactive armour developed by the Swedish FFV Ordnance. The Swedish Army gradually phased out its Centurions and Strv 103 during the 1990s as a consequence of comparative tests of the T-72, Leclerc, M1A1 and Leopard 2. It was replaced by the Leopard 2 and the Stridsvagn 122, a Swedish variant of the German tank.

A Centurion of the Royal Swedish Army.

A Swiss Panzer 57 (Centurion Mk VII) against the background of the Swiss Alps.

A Swiss Panzer 57 (Centurion Mk VII) on a tank transporter.

Switzerland

The Swiss Army acquired 312 Centurions in total, the first batch being ordered in 1955. These were delivered in 1956/7 and received the Swiss designation of Panzer 55. A second batch of Centurion tanks, this time comprising Mk VIIs, was delivered between 1958 and 1960. A third batch of Centurions was bought in 1960, comprising Mk Vs from South African surplus stocks. Some later modifications of these Centurions included fitting them with diesel engines.

Centurion Armoured Engineer Vehicles

Centurion Armoured Recovery Vehicles

The Centurion's hull lent itself well to conversion into a variety of engineer vehicles, the first, deployed in 1954, being a Mk I Armoured Recovery Vehicle (ARV) which was simply a hull minus the turret fitted with towing gear. This was replaced by the Centurion Mk II ARV (FV4006), which was essentially a Centurion MBT with its turret removed and replaced by an all-welded superstructure behind the driver's position. The commander's cupola could be traversed through 360° and was fitted with a 7.62mm (0.30in) machine gun. Mounted at the rear of the hull were spades which were used to stabilize the vehicle when the winch was being used. The winch's 31,000kg capacity could be increased with the aid of snatch blocks to a maximum of 90,000kg. The vehicle had a loaded weight of 50,295kg and a crew of four. All Centurion Mk II ARVs were built by Vickers Defence Systems at Newcastle-upon-Tyne, 345 being produced between 1954 and 1959.

Centurion Beach Armoured Recovery Vehicles (BARV)

The Centurion BARV was developed as a replacement for the Sherman BARV, which was no longer powerful enough to rescue a new generation of heavy armoured vehicles. A mild-steel prototype was followed in 1960 by twelve production vehicles. These were based on the hulls of Mk I, II and III Centurion tanks that by this time were redundant. Although initially assigned to the army, they were passed to the Royal Marines when the army's amphibious assault role was assigned to the Marines. The BARV was basically a Centurion body with built-up sides to accommodate wading in water up to eleven feet. The design was functional although somewhat crude, with sloped armour built above the tank hull. The tracks for the BARV were reversed so they had better grip biting in reverse gear. Centurion BARVs had a crew of four; two of the crew were members of the Royal Engineers, one of whom was a qualified diver. The Centurion BARVs were built to provide the essential role for the LPD's HMS *Fearless* and HMS *Intrepid* as part of the Beach Assault Squadrons. The Assault Squadron personnel were initially a mix of Royal Marines and army serving aboard the ships, but the responsibility was eventually assigned entirely to the Royal Marines.

British troops being ferried ashore by a Centurion BARV during the Falklands conflict.

A Centurion ARV Mk II at the Borden Military Museum, Ontario, Canada.

A Centurion AVRE pictured on the foggy streets of Londonderry during Operation Motorman, 31 July 1972.

A Centurion AVRE. The short 165mm L9A1 gun was used to demolish structures such as pillboxes and gun emplacements.

Centurion Bridgelayer and Armoured Ramp Carrier (ARK)

Based on a Mk V chassis, the Centurion Bridgelayer carrying a No. 6 Tank Bridge that could span gaps of up to a width of 45 feet and support vehicles of up to 80 tons in weight. To negotiate gaps of up to 75 feet the Centurion ARK could be used, the tank itself acting as a central pier. The Bridgelayer/ARK entered service with the Royal Engineers in 1963.

Centurion Armoured Vehicle Royal Engineers (AVRE)

The FV4003 Centurion Mk V AVRE, armed with a short-barrelled L9A1 165mm demolition gun, entered service in 1963, replacing the Churchill AVRE. The vehicle was later renamed AVRE 165 relating to its primary armament.
The armament was capable of firing a 60lb (29kg) HESH round.

The vehicle added a dozer blade to the front, and frequently towed the Giant Viper for mine clearance or other trailers for stores. Large turret bins provided stowage. The dozer attachment was also provided on regular tanks as the FV4019 Centurion Mk V Bulldozer.

The FV4203 Centurion Mk XII AVRE, a modified artillery observation post vehicle, was armed with the conventional 105mm Royal Ordnance L7 rifled gun and provided with track-width, mine-clearance ploughs instead of the dozer blade on the Mk V. On 31 July 1972, several Centurion AVRE demolition vehicles were deployed in support of Operation Motorman, which was intended to break an increasing threat by the IRA in Northern Ireland. The tanks were transported to Northern Ireland aboard the amphibious landing ship HMS *Fearless* and were operated with their turrets traversed to the rear and their main guns covered by tarpaulins. The AVREs used their massive bulldozer blades to destroy twenty-nine barricades erected by the

IRA in Londonderry.

Centurion Mk V Dozer
This was a standard Centurion Mk V fitted with a hydraulically operated bulldozer blade identical to that fitted to the AVRE. It entered service with the Royal Engineers in 1961.

In Service and In Action

When the Centurion entered service in 1946, the forces of the western allies had already embarked on a programme of rapid demobilization that would only be reversed in 1948, when the Russians – who still maintained substantial forces in their zone of occupation and elsewhere in eastern Europe – closed the access routes to Berlin and precipitated a massive air resupply operation that became known as the Berlin Airlift. During this period, the main Soviet medium tank was still the T-34/85, which had spearheaded the drive to the German capital in 1945. The Centurion would easily have been able to cope with the T-34, but another Soviet tank, the heavy IS-3, with its 122mm gun, would have presented an altogether more difficult problem. To counter it, the British developed the 65-ton Conqueror, armed with a 120mm gun, and the two served alongside one another for a decade from 1955 in the British Army of the Rhine (BAOR). The weight of the Conqueror, however, meant that it was slow, and in addition many river bridges in Germany were incapable of supporting it. Apart from its hitting power, it offered no advantage over the Centurion, and the last examples were withdrawn in 1966.

The receiving end! 'Enemy' troops surrendering at gunpoint to a BAOR Centurion during an exercise in Germany.

The Centurion served the British Army of the Rhine well during the most dangerous years of the Cold War. Led by a Ferret scout car, this Centurion is seen on parade in West Berlin.

By the mid-1950s, the majority of European armies assigned to NATO had rearmed with the Centurion under the auspices of the U.S. Mutual Defense Assistance Pact, and all were subjected to ongoing upgrades following the deployment of a formidable new Soviet main battle tank, the T-54/55. Yet when the Centurion went into action, it was to be in regions far remote from the plains of Central Europe

A Centurion on exercise, with an umpire in a Ferret scout car keeping a watchful eye on proceedings.

A Centurion on exercise with the British Army of the Rhine. Constant operational practice with other NATO nations was the key to successful defence against the ongoing threat from the Warsaw Pact.

Built as a Mk XII, this Centurion entered service in 1955 and was converted to AVRE standard in 1981.

The Korean War

On 11 October 1950, three squadrons of the 8th King's Royal Irish Hussars, which then formed part of the Strategic Reserve at Tidworth with Centurion Mk III tanks, sailed from Southampton on the HMT *Empire Fowey* and deployed to Korea to support the 29th Commonwealth Brigade. They disembarked at the port of Pusan on 14 November and headed for the battlefront north of Pyongyang, but were forced to retreat, along with other United Nations forces, in the face of massive enemy attacks. They regrouped on the Han River, where, during the bitter winter of 1950/1, operating in sub-zero temperatures, they experienced the rigours of winter warfare: their tanks had to be parked on straw to prevent the steel tracks from freezing to the ground. Engines had to be started every half hour, with each gear being engaged in turn to prevent them from being frozen into place.

During this period it was decided to return A and B squadrons of the 8th Hussars to the UK, and until they were rushed back from Japan it was C Squadron that was left to bear the brunt of the fighting when, on the night of 22 April 1951, communist

forces launched a massive offensive all along the front. The Chinese scored an early success when, striking hard at the weakest part of the Allied line, they cut the Republic of Korea (ROK) 6th Division to pieces, leaving a dangerous gap between the U.S. Marine Division on its right flank and the 24th Infantry on the left. It was now clear that the main Chinese objective was to isolate Seoul with an enveloping movement from the north and northeast. On 26 April the Chinese offensive was checked in the eastern sector by the 27th Commonwealth Brigade and the attention now switched to the west, where six Chinese armies were throwing everything they had into a bid to reach the South Korean capital. The main weight of the offensive here fell on the British 29th Brigade, which held a 12,000-yard front and defended the vital river crossings over the Imjin River. The epic stand of the 29th Brigade – and particularly that of the 1st Battalion the Gloucester Regiment on Hill 235 above the hamlet of Solma-ri – has gone down in history. The brigade held on for three days against overwhelming odds before a general withdrawal was ordered to new positions north of Seoul. This holding action not only saved the left flank of the Eighth Army's I Corps, making possible an orderly withdrawal down the road to Seoul, it also disrupted the entire timetable of the Chinese offensive, robbing it of its momentum. In addition, during three days of savage fighting, the 29th Brigade had destroyed an entire Chinese division.

None of this would have succeeded without the heroic action of the 8th Hussars, whose Centurions engaged the attacking Chinese over a period of several days in order to prevent the enemy from capturing the high ground defended by the infantry, the tanks making several sorties into overrun positions to rescue infantrymen who had been cut off by the Chinese advance. One British tank commander, Richard Napier, in his book *From Horses to Chieftains*, recalled: "The Chinese had infiltrated behind them and were swarming around them, shooting at the infantrymen on the tank. The crew resorted to lobbing grenades out of the hatches at the mass of Chinese infantry. On one occasion, the Centurion tanks of the 8th were swamped by Chinese soldiers who were attempting to prise open the hatches to throw grenades inside. The response of the Irish Hussars was to turn the turrets of their tanks towards each other, and 'hose' the enemy off with their Besa machine guns."

In July 1951 the British Commonwealth forces in Korea, including the 8th Hussars, were banded together in a new formation designated the 1st Commonwealth Division, made up of fifty-eight per cent British forces, twenty-two per cent Canadian, fourteen per cent Australian, five per cent New Zealand and one per cent Indian. It formed an important component of the U.S. I Corps, which also included the U.S. 1st Cavalry Division, the U.S. 3rd and 25th Infantry divisions, and the ROK 1st Division. The division occupied the strategically important sector of front stretching from the Kimpo peninsula on the Yellow Sea coast to a point east of Kumhwa thirty miles from the South Korean capital, Seoul.

In December 1951 the 8th Hussars were relieved by the 5th Royal Inniskilling Dragoon Guards, and in November 1952 their Centurions, supporting the Black Watch, played a key part in driving Chinese forces from a position known as The Hook. In the following month the Inniskillings were in turn relieved by the 1st Royal Tank Regiment and redeployed to the Suez Canal Zone, just before its handover to the Egyptian government.

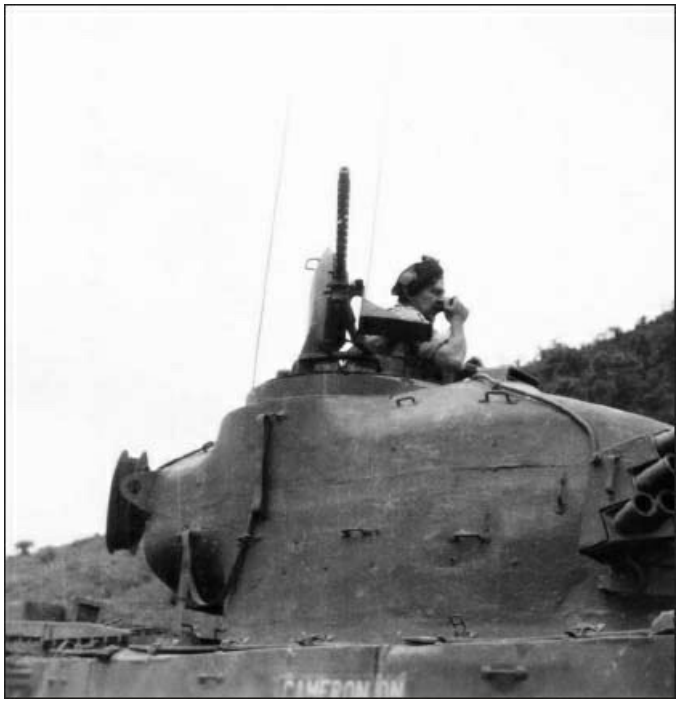
A Conqueror firing its 120mm main gun.

The formidable IS-3 presented a new challenge to NATO armoured forces. It retained the 122mm gun of the earlier IS-2 but had a redesigned, more rounded turret resembling an upturned soup bowl. The IS tanks were the spearhead of the final assault on Berlin in April 1945, their power and protection enabling them to break through the enemy defensive barriers.

The Conqueror was developed in response to the threat posed by Soviet heavy armour like the IS-3, but apart from its firepower it offered no real advantage over the Centurion. The tank's size made negotiating narrow roads difficult, like this one passing through a German village.

The Soviet T-55 main battle tank, seen here in Czech markings, remained the Centurion's most formidable opponent throughout much of the British tank's operational life.

A heavily camouflaged Centurion of the 8th King's Royal Irish Hussars, Korea.



Centurion Mk III in Korea, showing commander's position and smoke launchers.

Suez 1956: Operation Musketeer

Operation Musketeer, the Anglo-French land, sea and air operation launched in October and November 1956, was in response to Egyptian President Nasser's seizure of British and French assets in the Suez Canal Zone earlier in the year. Much emphasis was laid on cooperation with tanks, as the plan called for the landing of an armoured regiment with the assault force. Since it was not thought likely that the Libya-based 10th Armoured Division could be used, it was decided early in August to raise a new armoured brigade as part of the 3rd Armoured Division in the United Kingdom, and one of its units – the 6th Royal Tank Regiment – was placed on the order of battle for invasion. The 1st RTR was also included, but could hardly be classed as combat ready. One of its squadrons had no armoured vehicles at all, its personnel working as mechanics with the Territorial Army; another was being used for training at the School of Infantry and the third was on garrison duty at Tidworth. The 6th RTR had recently completed a tour in Germany, and many personnel were still there; the rest were scattered throughout the United Kingdom, working with the territorials. The reorganization of both regiments was chaotic. Much of the equipment issued to them from storage depots up and down the country was outmoded and totally inadequate; some of it dated back to 1940. Many of the support vehicles lacked essential items of equipment such as wireless aerials and ammunition racks.

Transporting the armoured regiments to their UK embarkation ports proved a nightmare. The weight of the Centurion tanks made movement by rail out of the question, which meant that the journey from Tidworth to Southampton and Portland had to be made on road transporters. Since the army had only a handful of these vehicles, they had to call on the services of the civilian firm Pickfords, which used heavy transporters to move large industrial components. Pickfords' crews, however, were tied to union working hours, which meant that they took a week to complete a trip that could have been made by army crews in half the

time. The result was that the move took four weeks, two of which might otherwise have been spent in valuable training. The 6th Royal Tanks, with forty-seven Centurions, finally sailed for Malta on 4 September. It would be nearly two months before 1RTR followed it. To complicate matters even further, out of the thirty-two tank landing ships available on paper to transport the regiments to the Mediterranean, only two were actually in service; the rest were in storage and had to be made seaworthy when their cocoons were removed. Only twelve more could be made ready in time. By the time the tanks of 6RTR reached the Canal Zone the main fighting was over, and their operations were restricted to escorting foot patrols until the United Nations ordered a withdrawal in December.

The Arab-Israeli Wars, 1967–73

At the start of the brief conflict known as the Six-Day War in June 1967 the Israeli Defence Forces had 293 operational Centurion tanks. Their armoured assets also included 250 upgraded M4 Shermans, although only 120 of these were operational, together with 250 M48A3 Patton tanks and about 400 French AMX-13s, the latter organized into three battalions. Although the AMX-13 was a light tank the Israelis used it in the role of main battle tank to which it was not suited, and it suffered heavy losses.

On the other hand, the Centurion – initially been unpopular with Israeli tank crews because of its relative complexity compared to earlier types of tank in Israeli service – soon proved its worth in action, notably on the West Bank, where the Centurion's 105mm L7 gun devastated the Jordanian Army's M48 Patton tanks, which lacked the upgrades of Israel's M48s. About a hundred Jordananian 170 M48s were captured by the Israelis during the conflict, many being pressed into service with the Israeli Armoured Corps.

The success of Israel's armoured brigades against very stiff Arab resistance during the Six-Day War was mainly due to the leadership and direction of General Israel Tal, who had assumed command of the Israeli Armoured Corps in 1964 and organized it into the leading element of the Israeli Defence Forces on land, formulating a doctrine based on high mobility and relentless assault. He retrained Israeli tank gunners to engage targets accurately at up to almost a mile, which was well within the capability of the Centurion's 105mm gun, instead of holding fire until their targets were much closer. This gave them a distinct advantage over their Arab opponents, whose tank crews normally waited until they were within 550 yards, and often much less, before opening fire with their Soviet-made tank guns.

Another major factor in the Israeli victory was air power. With the Arab air forces virtually wiped out in the first hours of the campaign, the Israeli Air Force was able to unleash its French-built Fouga Magister light attack aircraft against the enemy, their 68mm SNEB rockets with armour-piercing proving deadly. Operated by No. 147 Squadron, the Magisters, in action mainly on the Jordanian front and against Syrian armour on the Golan Heights, claimed 128 tanks destroyed during the war, the total including some fifty Jordanian Centurions supporting a thrust toward Jerusalem by the Jordanian Army. Six Magisters were shot down by ground fire and their pilots lost.

This Centurion Mk III fell victim to enemy artillery fire during the Battle of the Imjin River in April 1951. The damage is being assessed prior to recovery.

Centurion Mk III of the Inniskilling Dragoon Guards in Korea.

The War Office had to charter Pickfords low loaders, like the one pictured here, to transport the Centurions to their embarkation ports. The tank on the low loader is a Tortoise heavy assault gun, only six of which were built.

A British foot patrol in Port Said.

The British amphibious assault under way at Port Said, November 1956.

Only six years after the end of the 1967 conflict, war again erupted in the Middle East when Egypt and Syria launched an attack that threatened Israel's survival. The so-called Yom Kippur offensive took the Israelis by surprise, and this time they were confronted by an extremely well-equipped enemy armed with some of the latest Soviet military technology, including T-62 tanks and an arsenal of surface-to-air missiles and anti-tank weaponry.

By this time, Israel's Centurions had undergone a substantial upgrade. The Meteor petrol engine had been replaced by a Teledyne Continental AVD-S-1790-2A air-cooled diesel powerplant incorporating an Allison CD-850-6 automatic transmission, substantially reducing the driver's workload during long-distance travel. The engine was also fitted in the Israeli Armoured Corps' M48A2 Patton tanks, which were undergoing a parallel upgrade. All Centurions were now armed with the 105mm L7 main gun with stowage for seventy-two rounds. These, and other modifications, were introduced during a three-year programme that was completed in 1970. The tank was known officially as the Upgraded Centurion, but received the popular name of Sh'ot, which translates from the Hebrew as 'Whip' or 'Scourge'.

The Yom Kippur war began on 6 October 1973 with massive assaults on two fronts, the Syrians attacking the Golan Heights in the north and the Egyptians launching a two-pronged offensive with five divisions across the Suez Canal into Sinai. In planning the latter the Egyptian Army leaned heavily on the Soviet Army's river-crossing expertise, developed to a very high degree during the Second World War. During the Sinai campaign, counterattacking Israeli armoured forces sustained punishing losses – as much as forty per cent – from Egyptian anti-tank weapons, ranging from man-portable RPG-7 rockets and RPG-43 grenades to AT-3 Sagger guided missiles. The latter knocked out 800 Israeli tanks during the conflict, many of them American M60s that had recently been delivered. It was the rapid delivery of more M60s, in fact, that enabled the Israelis to counterattack across the Suez Canal and engage Egyptian forces on their own territory.

A further factor in the eventual Israeli victory was the collapse of Syria's offensive on the northern front. Here, on the Golan Heights, the Israeli 7th Armoured and 188th 'Barak' brigades, with 177 Centurions, fought off an assault by some 1,200 Syrian tanks in a battle lasting fifty-one hours. When the Syrians eventually withdrew they left 500 disabled and destroyed tanks on the battlefield. This wholesale destruction of Syria's armour enabled the Israeli Defence Forces to launch a counterattack deep into Syrian territory, and at one point their tanks were within ten miles of Damascus, the Syrian capital.

Centurions vs the PLO, September 1970

In 1970, midway between the two principal Arab-Israeli wars, the Royal Jordanian Army's Centurion Mk VII tanks were used to crush Palestine Liberation Organization factions in Jordan, which were attempting to seize control of the country with the help of incursions by T-55 tanks of the Syrian Army. Elements of the Jordanian 40th Armoured Brigade, supported by the Royal Jordanian Air Force, broke up an attack by the Syrian 5th Division near Ar-Rathma, inflicting heavy losses on the enemy.

Israeli Centurions advancing in the Negev desert.

One of Israel's Centurions seen in typical desert colour scheme.

General Israel Tal, a hard-bitten and resourceful commander, led Israel's armoured forces to success in the Six-Day War of 1967.

Israeli Air Force Fouga Magister trainer/light attack aircraft, armed with 68mm SNEB rockets, inflicted considerable damage on Jordanian and Syrian armour.

Israeli Centurions preparing for action just before the outbreak of hostilities in June 1967.

Centurion and Shot tanks in Israeli service. Benjamín Núñez González wikicommons

Centurions on the march: Israeli main battle tanks en route to the Golan Heights in the Yom Kippur War.

This Centurion was left in place on the Golan Heights as a memorial to the tank crews of the Yom Kippur war.

Israeli Centurions in the Sinai desert.

The Yom Kippur War cost Israel many of its Centurions, like this one caught in the battle for the Suez Canal.

The speedy delivery of arms from the U.S., including M60 tanks seen here passing a wrecked Syrian T-55, helped the Israelis to secure victory.

The wreckage of a Pakistani M48 Patton, victim of a gun duel with an Indian Centurion in the Indo-Pakistan War of 1965.

The Indo-Pakistan wars, 1965 and 1971

India's Centurion tanks participated in both Indo-Pakistan conflicts. On 10 September 1965, an attack by the Pakistani 1st Armoured Division was blunted at the Battle of Asal Uttar by three Indian armoured regiments, one of which, 3 Cavalry, was armed with forty-five Centurion Mk VIIs. The majority of the 135 Pakistani tanks engaged were Shermans which were totally outclassed by the Centurions; only twenty-four were more modern M47 and M48 Pattons. Intense fighting continued over the next two days before the Pakistani forces conducted a tactical retreat toward Chawinda, at which point India claimed to have destroyed sixty-seven Pakistani tanks. Indian losses were six Centurions. A United Nations ceasefire was concluded on 22 September.

In 1971, in the Sialkot area, two Pakistani armoured regiments engaged the Centurions of the Indian I Armoured Corps in a renewed outbreak of hostilities following Bangladesh's declaration of independence from Pakistan.

Vietnam

In February 1968, Centurions of C Squadron, 1st Armoured Regiment, Australian Army, deployed to Vietnam as part of the 1st Australian Task Force, and were based at Nui Dat in Phuoc Tuy province. The squadron initially comprised two troops, each of four tanks, and two tanks of the squadron headquarters, as well as two dozer tanks and two bridgelayer tanks. A third troop was created by placing the two headquarters' tanks together with the two dozer tanks. This number constituted only half of the squadron and it was not until August that the rest of the squadron arrived from Australia. This brought the squadron up to its full strength of twenty tanks, with another six in reserve.

Prior to their deployment to Vietnam, the Centurions underwent a number of modifications. These included the installation of a large external fuel tank on the back of each tank, although this was later deleted because of the increased fire hazard. The main gun system was upgraded, a ranging machine gun was fitted and an infrared illumination system was also installed for improved night vision. The tanks side skirts were removed to avoid a potential buildup of mud and debris around the tracks in jungle warfare conditions, and were replaced with heavy-gauge steel plate. Storage racks were welded to the rear of the turret for the carriage of ammunition and other equipment, and an additional radio was installed to permit communication between the tank crew and infantry. In February 1969 C Squadron was relieved by B Squadron, the latter remaining in Vietnam for the rest of the year. The Centurions provided fire support for infantry operations, were used to directly attack enemy positions, and helped defend the Fire Support Bases.

By late 1970 Australia was beginning to reduce its commitment to the war and the size of 1ATF was reduced from three infantry battalions to two. The tanks, however, continued to be engaged in operations in 1971, providing decisive armoured firepower in many actions which often involved very fierce fighting.

The 1st Armoured Regiment's tanks worked closely with the Australian infantry and the APCs of 3rd Cavalry Regiment on operations throughout Phuoc Tuy and neighbouring provinces. During 1971 troops were progressively withdrawn from Vietnam, as the government reduced Australia's commitment to the war. In June and July the tanks of C Squadron were progressively phased out of operations and the squadron returned home in September.

South Africa

The South African Army deployed a single squadron of thirteen Olifant Mk IA tanks to the Angolan border in 1985, where they were attached to the 61st Mechanized Battalion Group. They were withdrawn after a ceasefire between South Africa and Angola was concluded, but reactivated when this broke down, and on 9 November 1987 they destroyed two Angolan T-55s during a nine-minute skirmish. During operations in Angola, South African forces typically dispersed into an arrowhead formation, with Olifants in the lead, Ratel-90 armoured cars on the flanks, and the remainder of the mechanized infantry to the rear and centre. Three Olifants were abandoned in a minefield and subsequently captured by the People's Armed Forces for the Liberation of Angola (FAPLA), while another two were damaged beyond immediate repair by mines but successfully recovered. A number of others suffered varying degrees of track and suspension damage due to mines or Angolan tank fire, but were able to keep moving after field repairs.

Australian Centurion tankmen being briefed prior to an operation in Vietnam. Despite many misgivings, the Centurion performed well in the Vietnamese jungle.

An Indian Centurion entering the town of Philora during the Indo-Pakistan War of 1965.

An Australian Centurion Mk V/1 'Diabolical' used in Vietnam, with a UH-1 'Huey' helicopter hovering nearby.

The South African Olifant main battle tank. (61 Mech)

A patrol passes an abandoned FAPLA artillery piece deep in the Angolan bush. The Olifants have had their track skirts removed because of the build-up of broken vegetation behind them. (61 Mech)

Olifant Mk IA tank at the South African Armour Museum, Bloemfontein.

A South African Olifant Mk II tank carrying out a demonstration, with Westland Lynx helicopters hovering in the background.

One of the Olifant battle tanks on the firing range at Omuthiya. At this time the Olifants, as yet untested in operations, still mounted the Centurion's trademark armoured side skirts, but during later deployments in Angola they were removed because they proved to be excellent bush-catchers. (61 Mech)

The aim of this innovative new series is to provide modelmakers and tank enthusiasts with a new standard of primarily visual reference of both full-size tanks and their scale models. Each book will contain detailed technical information imparted through drawings and photographs while the meticulously researched full-colour profiles will provide a complete reference for paint schemes and markings. In addition every volume of the TankCraft series will feature summaries of design histories and operational careers, and reviews of available kits. Each book is devoted to an iconic tank type – chosen for its popularity as a modelling subject – and the series will provide coverage across a range of different criteria, showcasing the best of the world's tank types and providing invaluable insight and guidance for modelmakers.

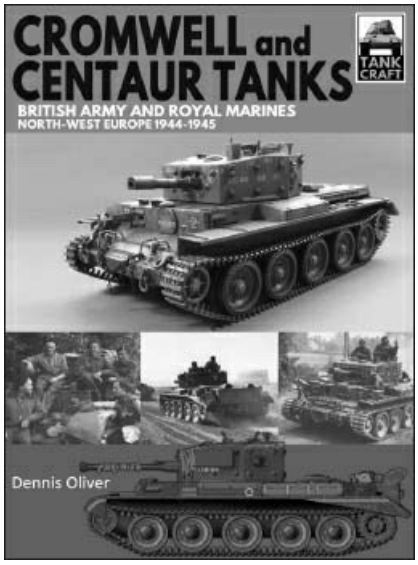
Number 9 in the TankCraft Series

COMWELL AND CENTAUR TANKS

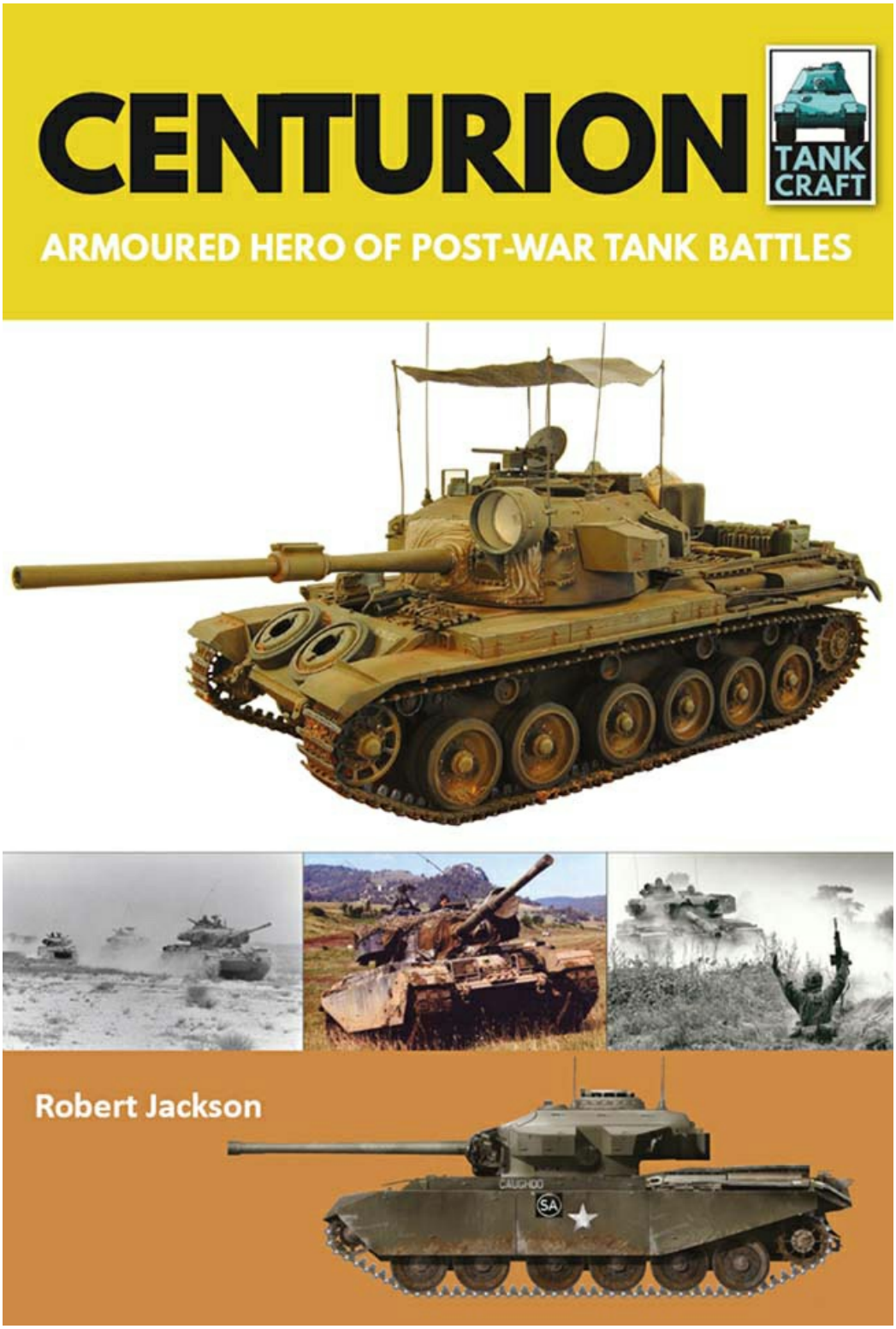
BRITISH ARMY AND ROYAL MARINES, NORTH-WEST EUROPE 1944–1945

Dennis Oliver

Designed with the hard lessons of the North African campaign in mind, the Cromwell was one of the most successful of the British cruiser tanks produced during the Second World War. The Centaur was externally almost identical to the Cromwell, the major difference being the installation of the less powerful engine. While the Centaur equipped the Royal Marines during the Normandy battles, the Cromwell served until the end of the war. Dennis Oliver uses wartime photographs and exquisitely presented colour profiles to tell the story of the penultimate British cruiser tank. In common with all the titles from the TankCraft series, the colour section features available model kits and accessories as well as aftermarket products.



An Israeli Centurion passing wrecked Syrian vehicles on the Golan Heights.



1/35 scale Tamiya Centurion Mk2 Vietnam War (Brian Richardson). Centre left: Israeli Centurions advancing in the Negev desert. Centre middle: A Centurion on exercise with the British Army of the Rhine. Constant operational practice with other NATO nations successfully defended the threat from the Warsaw Pact. Centre right: 'Enemy' troops surrendering at gunpoint to a BAOR Centurion during an exercise in Germany. Profile illustration: Centurion Mk 3 'Caughoo' of C Squadron, 8th King's Royal Irish Hussars, Yongdungpo, Korea, February 1951. (Tom Cooper)